FINAL WORKPLAN

FOR SITE CLOSURE ACTIVITIES

ON THE PROPERTY LOCATED AT

98-116 SOUTH 4TH STREET
BOROUGH OF BROOKLYN
KINGS COUNTY, NEW YORK

Date of Preparation: May 2, 1997

Date of Revision: December 3, 1997

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ESI File Number: PB96146.40

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Prepared By:

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Prepared For:

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The undersigned have reviewed this Final Workplan for Site Closure Activities and certify to El Puente that the information provided in this document is accurate as of the date of issuance by this office.

Any and all questions or comments, including requests for additional information, should be submitted to the undersigned.

Paul H. Ciminello
President

Ronald Bielinski, P.E.
Project Engineer

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1.0 INTRODUCTION

1.1 Purpose

This Final Workplan incorporates recommendations made by the New York State Department of Environmental Conservation's (NYSDEC) letters dated April 25, 1997 and August 22, 1997 and a telephone conversation with the NYSDEC on May 7, 1997 and supersedes the previous August 5, 1997 Revised Workplan. The purpose of this Final Workplan is to provide guidance on the manner in which site closure services are provided to address known environmental conditions (see Section 1.4, below) on the property located at 98-116 South 4th Street in the Borough of Brooklyn, Kings County, New York (hereafter referred to as the "Site"). It is the expressed intent of this Final Workplan to provide specific actions which will adequately address each identified environmental condition such that, upon completion of all activities, no adverse health impacts will result from future site reuse (see Section 1.3, below).

This Workplan will be considered FINAL when written approval is received from the NYSDEC.

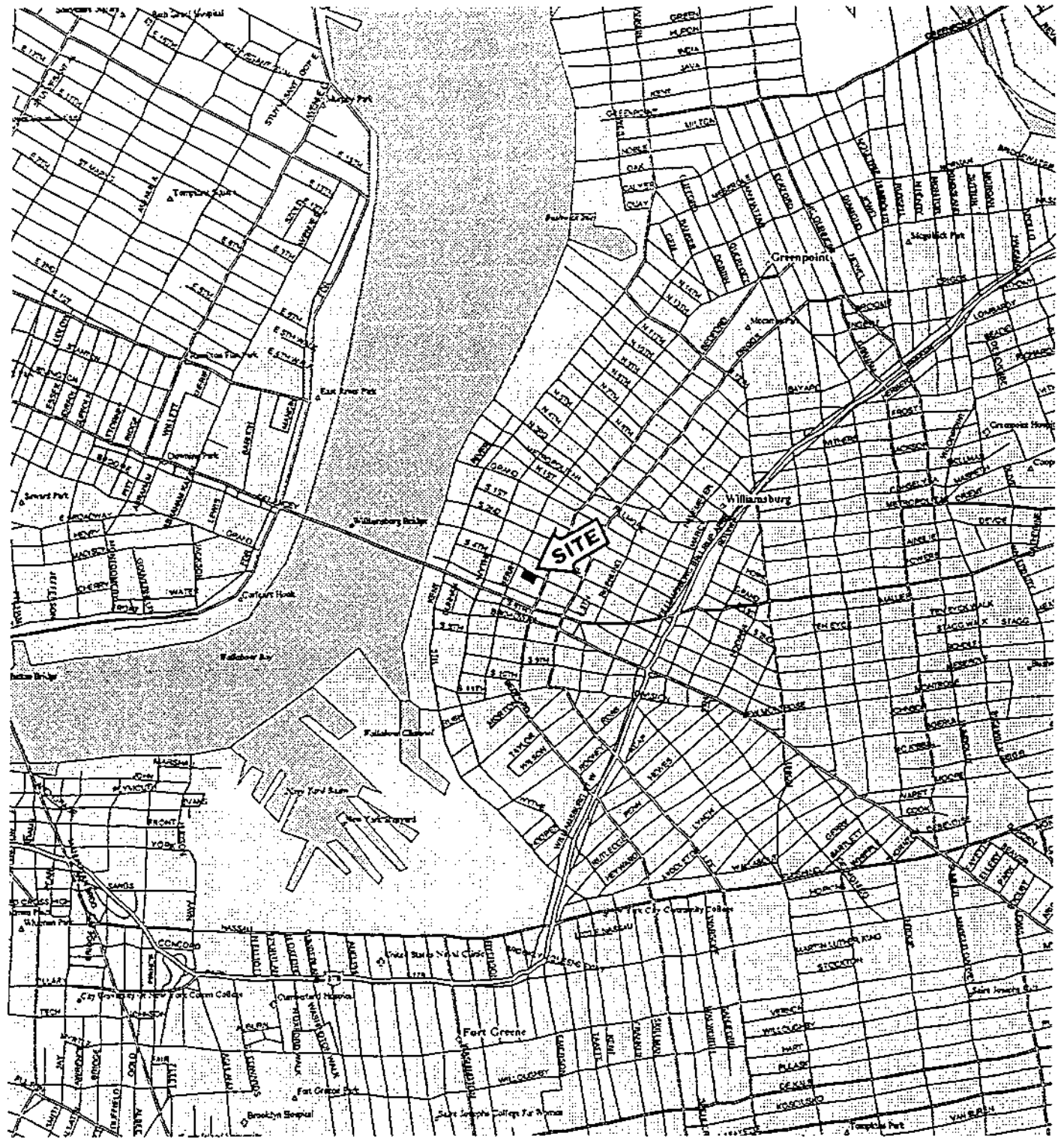
1.2 Site Location and Description

The subject property as defined in this Final Workplan is the rectangularly shaped property located at 98-116 South 4th Street in the Borough of Brooklyn, Kings County, New York (see the Site Location Map, Page 2). The subject property is comprised of a single tax lot (Tax Identification Number: Block 2443, Lot 13).

Occupying almost the entirety of the subject property are three structures: a central seven-story structure (herein referred to as Building #2) flanked by a one-story structure to the east (herein referred to as Building #1) and a one-story structure to the west (herein referred to as Building #3).

All three buildings were constructed in the early to mid 1900s and are currently in varying stages of deterioration. The on-site structures were formerly occupied with various manufacturing uses including an electroplating laboratory and a former glue/adhesives factory. Immediately south of the multi-story structure is a small paved courtyard area. All buildings are shown on the Field Work Map on Page 8 of this Final Workplan.

Based on available information all three of the on-site structures (the seven-story and the two one-story structures) are connected to the Borough of Brooklyn central water and sewer systems.



Source: 1996 DeLorme Street Atlas

Site Location Map

98-116 South 4th Street

Borough of Brooklyn, Kings County, New York

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1.3 Proposed Future Site Re-Use

The Site is proposed for re-use as an educational facility. It is anticipated that Building #2 will be renovated while Buildings #1 and #3 will be demolished. Current plans show a structure being constructed in the footprint of Building #3.

1.4 Known Environmental Conditions of Concern

The Site has been the subject of several environmental investigations which have accurately and comprehensively documented on-site environmental conditions. A summary of the environmental conditions known to exist on the Site are provided below:

1. Laboratory analyses documented the presence of volatile organic compounds (VOCs) and polycyclic aromatic hydrocarbons (PAHs) in shallow soils below building #3 at levels exceeding NYSDEC guidance values (see summary data Tables 1 and 2 on the following pages). Soil sample data confirm the need for remedial action of soils beneath building #3, with particular concern for soils at the 0-2 foot depth.

   Based on the non-detectable levels of PAHs documented in soils from between 15 and 17 feet below grade in boring B-1 extended within Building #3 (likely to be either at or below the invert of the two on-site USTs), it is unlikely that the elevated levels of PAHs identified in the soils are the result of a release of product from either of the two on-site USTs.

   Laboratory data generated to date support the conclusion that the vertical extent of significant contamination at levels warranting remediation does not exceed 4 feet below surface grade under Building #3. The lateral extent of contamination appears to be limited to surface soils present within Building #3 as the data obtained from borings extended beneath the concrete floor of the basement of Building #2 suggest that the subgrade soils have not been adversely impacted.

   The estimated maximum volume of on-site contaminated soil that requires remediation is 500 cubic yards.

   The documented levels of contaminants indicate that remediation and special handling of subsurface soils, other than the surface soils directly beneath the floor of Building #3 (6" to approximately 3' 6" below grade), is not warranted. No significant contamination is present under Building #2.

Table 2: Laboratory Analyses of Soil Samples in Basement of Building #2
(Results in **bold** exceed designated action levels. All results measured in μg/kg-ppb.)

	Compound	Action Level[1&2]	B-6 6"-2'6"	B-7 6"-2'6"	B-8 6"-2'6"	B-9 4'-6'
VOCs	Acetone	200 μg/kg	ND[3]	ND	ND	ND
	Toluene	100 μg/kg	ND	ND	ND	ND
	Tetrachloroethene	1,400 μg/kg	ND	ND	3	ND
	1,1,1-Trichloroethane	800 μg/kg	ND	ND	ND	ND
	Trichloroethene	700 μg/kg	3	ND	14	3
PAHs	Acenaphthene	400 μg/kg	ND	ND	ND	ND
	Acenaphthylene	100 μg/kg	ND	ND	ND	ND
	Anthracene	1,000 μg/kg	ND	ND	ND	ND
	Benzo (a) Anthracene	.04 μg/kg	ND	ND	**130J**	ND
	Benzo (a) Pyrene	.04 μg/kg	ND	ND	ND	ND
	Benzo (b) Fluoranthene	.04 μg/kg	ND	ND	**140J**	ND
	Benzo (k) Fluoranthene	.04 μg/kg	ND	ND	**51J**	ND
	Benzo (g,h,i) Perylene	.04 μg/kg	ND	ND	ND	ND
	Chrysene	.04 μg/kg	ND	ND	**130J**	ND
	Fluoranthene	1,000 μg/kg	56J	ND	210	ND
	Indeno (1,2,3-cd) Pyrene	.04 μg/kg	ND	ND	ND	ND
	Naphthalene	200 μg/kg	ND	ND	ND	ND
	Phenanthrene	1,000 μg/kg	ND	ND	110J	ND
	Pyrene	1,000 μg/kg	52J	ND	200	ND

Notes:
1. Source: NYSDEC STARS Memo #1 (July 1993)
2. Source: NYSDEC TAGM (January 24, 1994)
3. ND = Not Detected, NA = Not Analyzed
4. J = Estimated value based on achievable detection limits

Table 1: Laboratory Analyses of Soil Samples in Building #3
(Results in **bold** exceed designated action levels. All results measured in μg/kg-ppb).

	Compound	Action Level[1,2]	B-1		B-2			B-3			B-4			B-5		
			0-2'	15'-17'	0-2'	5'-7'	12'-14'	6"-2'	4'-6'	8'-10'	6"-2'	4'-6'	8'-10'	6"-2'	4'-6'	8-10'
VOCs	Acetone	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	56	37	46	ND	ND
	Toluene	100	ND[3]	ND	ND	**1,400**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Tetrachloroethene	1,400	170	ND	**5,500**	ND	ND	8	55	4	370	59	32	63	2	4
	1,1,1-Trichloroethane	800	ND	ND	ND	71	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Trichloroethene	700	170	ND	**3,700**	ND	ND	3	18	3	**1,100**	150	66	100	5	7
	cis-1,2-dichloroethene	NP	120	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Methylene Chloride	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	23	ND	ND
PAHs	Acenaphthene	400	**1,400**	ND	ND	NA	NA	**790**	ND	ND	120J	**480**	100J	**1,100**	ND	ND
	Acenaphthylene	100	ND	ND	ND	NA	NA	ND	ND	ND	ND	**100J**	68J	ND	ND	ND
	Anthracene	1,000	**3,000**	ND	**1,200**	NA	NA	**1,600**	ND	82J	380	890	380	**1,600**	ND	ND
	Benzo (a) Anthracene	.04	**7,900**	ND	**3,300**	NA	NA	**3,100**	ND	**200J**	**1,200**	**2,400**	**870**	**4,300**	**78J**	ND
	Benzo (a) Pyrene	.04	**6,000**	ND	**2,900**	NA	NA	**2,600**	ND	**160J**	**1,100**	**2,100**	**880**	**3,800**	ND	ND
	Benzo (b) Fluoranthene	.04	**7,100**	ND	**4,000**	NA	NA	**3,300**	ND	**210**	**1,400**	**2,700**	**1,200**	**5,700**	ND	ND
	Benzo (k) Fluoranthene	.04	**2,500**	ND	**1,500**	NA	NA	**1,200**	ND	**80**	**560**	**890**	**410**	**1,800**	ND	ND
	Benzo (g,h,i) Perylene	.04	**2,300**	ND	**1,500**	NA	NA	**1,200**	ND	ND	**350**	**860**	**340**	**1,500**	ND	ND
	Chrysene	.04	**9,000**	ND	**3,500**	NA	NA	**3,000**	ND	**200J**	**1,200**	**2,600**	**850**	**4,500**	**78J**	ND
	Fluorene	1,000	ND	ND	ND	NA	NA	830	ND	ND	ND	430	ND	600	ND	ND
	Fluoranthene	1,000	**14,000**	ND	**7,300**	NA	NA	**6,900**	95J	480	**2,400**	**5,200**	**2,000**	**9,700**	160J	ND
	Indeno (1,2,3-cd) Pyrene	.04	**1,900**	ND	**1,300**	NA	NA	**1,200**	ND	ND	**350**	**820**	**300**	**1,500**	ND	ND
	Naphthalene	200	**3,400**	ND	ND	NA	NA	**560J**	ND	ND	ND	**550**	130J	**1,000**	ND	ND
	Phenanthrene	1,000	**19,000**	ND	**6,100**	NA	NA	**7,100**	99J	400	**1,700**	**6,000**	**1,700**	**9,000**	130J	ND
	Pyrene	1,000	**19,000**	ND	**6,100**	NA	NA	**5,900**	82J	380	**2,200**	**5,100**	**2,600**	**8,000**	140J	ND
	Dibenzo (a,h) Anthracene	14	ND	ND	ND	NA	NA	**320J**	ND	ND	**110J**	**270**	**77J**	**510J**	ND	ND

Notes:
1. Source: NYSDEC STARS Memo #1 (July 1993)
2. Source: NYSDEC TAGM (January 24, 1994)
3. ND = Not Detected, NA = Not Analyzed, NP = Action level for this compound not provided in guidance documents
4. J = Estimated value based on achievable detection limits

2. Three groundwater monitoring wells have been installed on the site; a fourth well, identified as MW-2, has been determined not to be an adequate well for groundwater quality or groundwater elevation monitoring purposes as refusal occurred at approximately 16 feet below grade (a depth above the likely groundwater elevation). Groundwater quality sampling was conducted in June and July 1997 for the purpose of documenting groundwater quality on and near the Site, consistent with requirements set forth by the NYSDEC. Samples collected in June 1997 were for initial screening purposes only and were not collected in accordance with NYSDEC protocols; however, the samples were submitted to a NYS Department of Health ELAP laboratory (Hampton-Clarke, Inc. Veritech Laboratory, ELAP #11408) for analysis. In July 1997, the three wells (MW-1, MW-3 and MW-4) were properly developed and purged of standing water, groundwater elevation measurements were taken, field screening data and observations were recorded, and groundwater samples were collected and shipped to a NYS Department of Health ELAP laboratory (Chemtech, ELAP #10624). These samples were analyzed in accordance with NYSDEC ASP protocols.

   Laboratory data for the initial round of groundwater sampling is provided in Attachment A-2 of this Final Workplan and laboratory data for the second round of groundwater sampling performed in accordance with ASP protocols is provided in Attachment A-3 of this Final Workplan. All groundwater results are summarized in Table 3, below. Data document the presence of low levels of a wide array of volatile organic compounds, including compounds previously identified in on-site soils. Levels do not indicate significant groundwater contamination and do not support the conclusion that on-site groundwater should be considered a source of off-site contamination at levels warranting remediation. These data support the conclusion that remedial actions specifically directed to remediate groundwater and reduce concentrations of the compounds identified in these sampling rounds is not warranted.

   Groundwater has been determined from surveyed well elevation data and depth-to-water measurement, to be moving in a northeasterly direction. Groundwater is present between 23 and 25 feet below surface elevation at the site; groundwater elevations vary between 26.69 feet at MW-4, 26.85 feet at MW-1, and 27.07 feet at MW-3 (see the Field Work Map, Page 8, for well locations). The slight variation in groundwater elevations is indicative of areas of low groundwater flow rates.

3. Building #3 contains multiple open drums and containers of unknown products and materials that may require special handling prior to their disposal. Present on the second floor of Building #2 are less than ten chemical containers of varying capacities containing unknown products; no drums are present in the basement of Building #2.

A preliminary estimate of containers in Building #3 and the second floor of Building #2 is between 35 and 40 drums; a more comprehensive assessment was not conducted at this time. A majority of the floor in Building #3 is covered with a variety of products associated with the operation of the building as a glue factory; these products may require special handling.

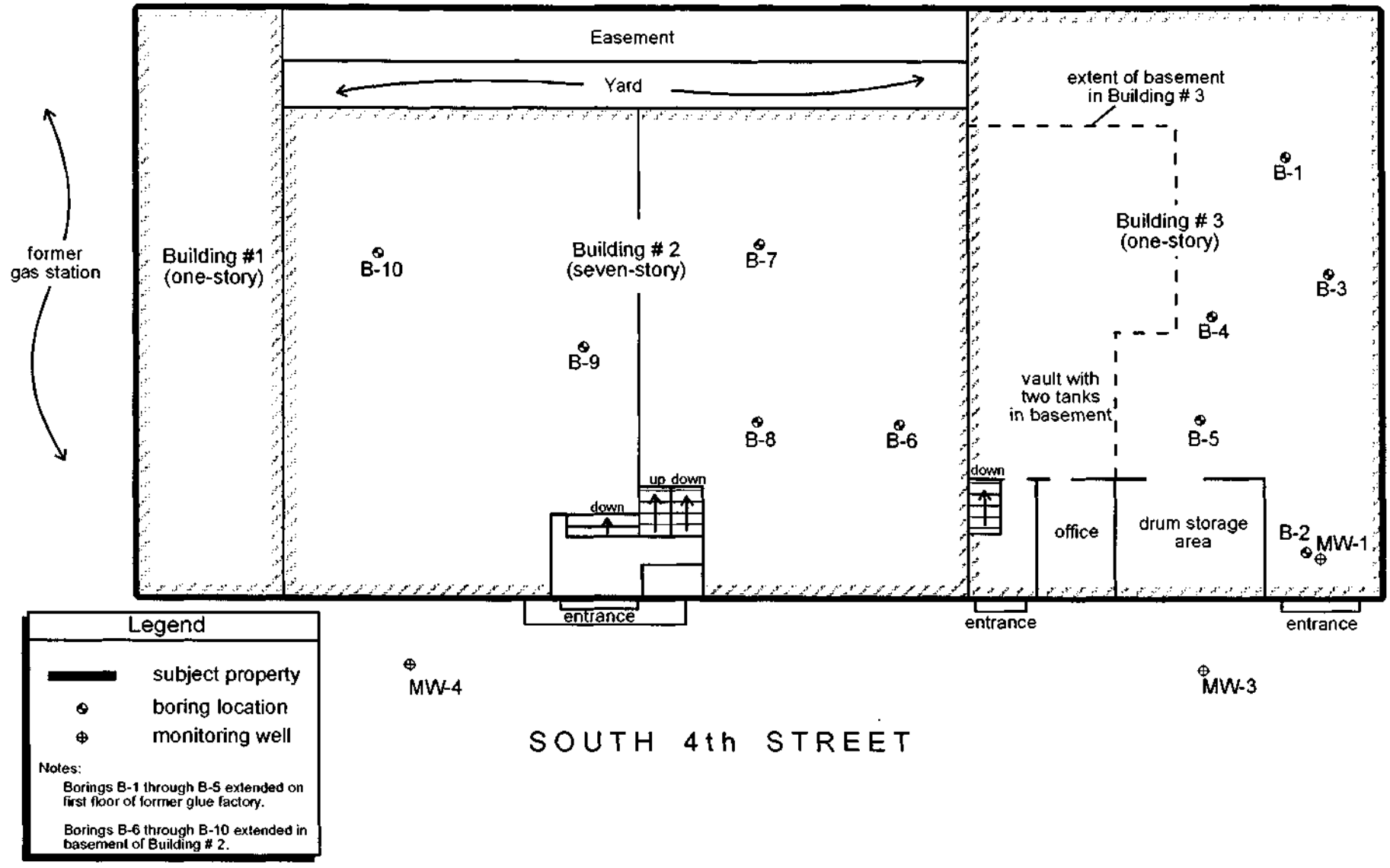
4. Two (2) 10,000-gallon vaulted tanks are located within a vaulted area beneath Building #3 and two (2) 275-gallon aboveground storage tanks (ASTs) are located in Building #3. Observations indicate that the two 10,000-gallon tanks are no longer in use and may have been previously closed; the two 275-gallon ASTs are also not in use. Borings conducted on the Site do not document any evidence of petroleum release from the two vaulted tanks.

5. Observations made during the site inspections indicate the presence of large quantities of debris within all three on-site structures. Among the materials noted by this office were building materials, wood, metal items, automotive parts, laboratory equipment (second floor of Building #2), mechanical equipment, office equipment and storage containers.

Table 3: Laboratory Analyses of Groundwater Samples
All results measured in micrograms per liter (μg/l)

		Sample Location[1]					
		MW-1		MW-3		MW-4	
Compound		Date of Collection					
		6/97	7/97	6/97	7/97	6/97	7/97
VOCs	Acetone	ND[2]	5JB	ND	3.1JB	ND	3.7JB
	Trichloroethene	100	86	92	74	19	21
	Tetrachloroethene	81	76	86	74	4.5	5.5J
	1,1,1-Trichloroethane	22	21	21	15	0.71	ND
	Toluene	28	ND	ND	ND	1.2	ND
	Chloroform	3.3	ND	2.4	ND	1.0	ND
	Methyl-t-butyl ether	ND	NA	8.1	4.2J	ND	ND
	1,2-Dichloroethene (total)	ND	7.1J	ND	5.5J	ND	ND
PAHs	bis(2-Ethylhexyl) phthalate	NA	1.2J	NA	ND	NA	ND

Notes:
1. Data for MW-2 are not shown; MW-2 was determined to be inadequate for groundwater quality monitoring purposes.
2. ND = Not Detected
3. J = Estimated value based on achievable detection limits.
B = compound was also detected in laboratory blanks.
4. NA =Not Analyzed



Field Work Map

98-116 South 4th Street
Borough of Brooklyn, Kings County, New York

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ESI File Number: PB96146.40
December 1997
Scale: 1" = 25'
Page 8

2.0 PROPOSED SITE CLOSURE SERVICES

This section of the Final Workplan details activities which are proposed to be conducted to address the known environmental conditions on the Site, as identified in Section 1.4, above. All work proposed herein will be conducted according to a Health and Safety Plan, to be prepared prior to the initiation of fieldwork. All proposed work will be performed in "Level D" personal protective equipment; however, field personnel (including subcontractors) will be prepared to continue services wearing more protective levels of equipment, should field conditions warrant.

For the purpose of the work detailed in these specifications, a qualified environmental consultant will be retained to oversee the provision of these specified services; this individual or firm is hereafter referred to as the On-Site Coordinator ("OSC"). For the purpose of the work detailed in these specifications, the "Client" is defined as El Puente which will contract with the environmental consultant to provide the services detailed below.

2.1 Site Preparation Services

2.1.1 Qualifications of On-site Remedial Personnel

Prior to the initiation of work, the identities and qualifications of the project managers and associated staff will be supplied to the NYSDEC. All on-site staff will be appropriately trained in accordance with Occupational Safety and Health Administration (OSHA) practices (29 CFR, Part 1910). The NYSDEC will also be notified of any changes in the senior on-site personnel.

Prior to the initiation of field work, a Site Health and Safety Officer will be designated by the Client and a complete Health and Safety Plan will be prepared. Resumes of specific professionals to be used by the Client will be provided to the NYSDEC. At this time, it is anticipated that Project Management and Site Safety will be provided by Paul H. Ciminello, Ronald Bielinski, P.E., Katherine J. Beinkafner, Ph.D., and Catherine L. Monian. Żywia Wojnar will serve as the Quality Assurance Officer for this project. Resumes of Project Management and Site Safety personnel are included in Attachment B.

2.1.2 Health and Safety Plan

A site-specific Health and Safety Plan is included in the Final Workplan as Attachment C. This Health and Safety Plan will be reviewed with the appropriate subcontractors prior to the initiation of field work.

2.1.3 Quality Assurance / Quality Control

EQUIPMENT

Prior to the initiation of field work, all field equipment to be used during the work will be properly decontaminated in accordance with NYSDEC guidelines and all field instruments will be properly calibrated in accordance with procedures set forth by the equipment manufacturer(s). Unless otherwise specified, a Thermal Instruments 580B photo-ionization detector (PID) will be used for site-screening of organic vapors. The 580B PID is calibrated to read parts per million calibration gas equivalents (ppm-cge) of isobutylene. Instrument calibration will be performed no more than 72 hours prior to the commencement of field work and a written record of calibration results will be provided in the project files.

COMMUNITY AIR MONITORING PLAN

A Community Air Monitoring Plan will be initiated during the field work outlined below, consistent with the Community Air Monitoring Plan included as Attachment D to this Final Workplan. The implementation of this Air Monitoring Plan will document the presence or absence of specific compounds in the air surrounding the work zone and will provide guidance on the need for implementing more stringent dust and emission controls based on air quality data.

QUALITY ASSURANCE PROJECT PLAN

A site specific Quality Assurance Project Plan ("QAPP") will be utilized during the course of the field work specified in this Final Workplan. The QAPP presents the procedures for completing the specific tasks detailed in Section 2.2, below. The QAPP incorporates appropriate field and laboratory methods to be utilized during the duration of the work. A copy of this QAPP is provided in Attachment E of this Final Workplan.

2.1.4 Laboratory Quality Control

All soil samples will be collected in accordance with applicable NYSDEC guidelines and all samples will be analyzed by a New York State Department of Health (NYSDOH) ELAP CLP certified laboratory using applicable NYSDEC Analytical Services Protocol (ASP) Methods. The reporting level for all analyzed soil and groundwater samples will be NYSDEC ASP Category B deliverables. All data will be evaluated in accordance with protocols outlined in the attached Division of Environmental Remediation Data Usability Summary Report ("DUSR"). This DUSR is provided as Attachment F to this Final Workplan.

Dedicated, sterile glassware for sample collection will be provided by the laboratory for this project. One trip blank and one field blank will be supplied for the laboratory for each day of field work involving sample collection. Chain of custody forms will be completed by field personnel involved in sample collection and completed custody forms will be provided in the final project Report (see Section 2.2.7).

Summarized below in Table 4 is the number of samples that are anticipated to be collected during this project, categorized by sample location and by analyte group. The number of samples are, at this time, estimates; field conditions may necessitate a greater or fewer number of samples being collected. A final sample chart will be included in all future reports issued to the NYSDEC.

Table 4: Summary of Anticipated Soil Samples

		Number of Samples to be Collected (Anticipated)			
Sample Location		**VOCs (ASP 95-1)**	**SVOCs (ASP 95-2)**	**Metals (CLP-M)**	**Other**
Building #3	Waste Characterization	2-4	2-4	2-4	PCBs, Pesticides, Cn, pH, Flashpoint, TCLP
	Shallow (0-0.5')	6	6	0	Depends on screening results
	Deep (3'-3.5')	6	6	0	Depends on screening results
Building #1	Shallow (0-0.5')	5	5	5	Depends on screening results
	Deep (3'-3.5')	5	5	5	Depends on screening results
	Stockpiled Soil	2-4	2-4	2-4	Depends on volume of soil
Tank Removal	Sidewalls	0	4-8	0	Depends on screening results
	Base	2	2	0	Depends on screening results
	Stockpiled Soil	2-4	2-4	2-4	Depends on screening results
Total # of Samples		**30-36**	**34-44**	**16-22**	

Notes: 1. All soil samples will be analyzed using NYSDEC ASP Methods 95-1 and 95-2.
2. The reporting level for all samples will be NYSDEC ASP Category B deliverables.

All debris that is generated during demolition activities for off-site disposal will also be analyzed via the full TCLP (Method 1311) TC list. The sampling of this demolition debris will be performed in accordance with methods established in Appendix 19 of 6 NYCRR Part 371. The number of samples that will be collected as part of the disposal of the demolition debris will be sufficient to accurately characterize the materials for deposition purposes.

2.1.5 Notifications

The NYSDEC will be notified in writing at least two weeks prior to the initiation of any of the on-site work and during the course of the field work if deemed necessary by on-site personnel. Changes to field work scheduling will be provided via facsimile transmission. All applicable local agencies will also be notified prior to the initiation of site work.

2.1.6 Pre-Demolition Environmental Services

Asbestos-containing materials (ACMs) in the form of floor tile, pipe insulation, roofing materials, and flashing have been documented to be present within Building #3. ACMs in the form of tank insulation, boiler insulation, exhaust breaching, and contaminated debris have been documented to be present in the basement of Building #3. Prior to demolition, all on-site ACMs will be removed from the on-site structure by a New York City licensed asbestos abatement contractor in accordance with applicable New York State Department of Labor and New York City Building Department guidelines. Appropriate precautions will be taken to control the generation of any fugitive dust during asbestos removal activities. Proper notifications to applicable agencies will be made prior to the abatement of any on-site ACMs.

A lead-based paint survey was performed on the on-site structures that identified an estimated 8,000 square feet of surface area within the buildings to be covered with lead-based paint. All surfaces currently covered with lead-based paint will be abated in one of two ways: wet process removal of paint and/or complete encapsulation, consistent with USHUD guidelines; or removal as demolition debris after proper testing, consistent with NYSDEC waste disposal regulations. Removal as demolition debris requires that a sufficient number of samples of building materials slated for demolition be collected and analyzed for leachable lead (TCLP) in accordance with Appendix 19 of 6 NYCRR Part 371. Data documenting leachable levels of lead below 5.0 mg/l will be considered satisfactory documentation that the debris can be managed as a non-hazardous solid waste.

At this time it is anticipated that lead-based paint located within Building #2 will be abated using wet process removal procedures and lead-based paint located within Buildings #1 and #3 will be removed as demolition debris subsequent to appropriate testing.

As part of the Community Air Monitoring Plan (see Attachment D of this Workplan), air quality monitoring for total dust will occur during demolition activities. Dust suppressant strategies including the use of misting and/or plastic covering of the demolition area will be implemented to ensure that migration of dust off-site is prevented during the course of site demolition.

2.2 Proposed Closure Services

This section of the Final Workplan provides detailed information on six specific tasks to be conducted at the subject property:

1. Proper removal of on-site wastes currently stored in drums and other receptacles on the Site (Section 2.2.1).

2. Removal of previously documented contaminated soil under the slab of Building #3 (Section 2.2.2).

3. Closure of the on-site 10,000-gallon fuel tanks and the 275-gallon fuel tanks currently located in Building #3 (Section 2.2.3).

4. Installation of a vapor barrier under, as proposed, construction within the footprint of Building #3 (Section 2.2.4)

5. Construction monitoring for possible contaminated soil under Building #1 (Section 2.2.5)

6. Groundwater monitoring well closure (Section 2.2.6)

7. Indoor air quality sampling after the completion of all site remediation services and the construction of the new building within the footprint of current Building #3 (Section 2.2.7)

8. Preparation and submission of appropriate documentation (including groundwater sample results, if warranted) to provide resolution to the outstanding "Active" NYSDEC spill file.

2.2.1 Removal of On-Site Wastes

Prior to any demolition services, all drums and liquid chemical storage containers present in Building #3 and on the second floor of Building #2 as well as any liquids not currently in containers will be inventoried to determine if any of the stored material can be returned to manufacturers and for waste

disposal compatibility assessment purposes. Upon completion of the inventory, a determination will be made regarding final disposition of all stored liquids. The sampling of any drummed or non-containerized wastes will be performed in accordance with methods established in Appendix 19 of 6 NYCRR Part 371. Any wastes that are determined to meet the definition of a D003 hazardous waste will be managed and disposed of in accordance with the "Land Disposal Restrictions" specified in 40 CFR Part 268.48.

All drums and containers determined to be unstable or in containers of questionable structural integrity will be overpacked. Similarly, wastes determined to be unstable will be chemically stabilized consistent with applicable procedures. All wastes, whether liquid or not, will be properly labeled and removed from the site by a licensed hauler. Manifests will be maintained by the OSC for inclusion in the Final Report (see Section 2.2.8, below).

Subsequent to the removal of all debris in the basement area of Building #2 (no drums containing hazardous materials are present in the basement of Building #2), a thorough search of the floor area will be conducted for the presence of any floor drains. In the event that drains are located, these drains will be opened and any accumulated material inside will be sampled for characterization purposes. The direction of the drain will be determined through physical probing and, if appropriate, video documentation. The floor of the basement will be breached along the extent of the drain and discharge lines and soil samples will be collected, with particular concern for volatile organic compounds (VOCs) and reactive compounds. Analytical results will determine the need for and extent of subsurface remediation. Current data (see laboratory results of B-8 and B-9) do not indicate the need for remedial actions of the soils under Building #2.

At a minimum, any identified floor drains will be cleaned of residue and foreign material and will be properly sealed.

2.2.2 Removal of Contaminated Soil under the Slab of Building #3

The following activities will be conducted to properly remove known VOC- and PAH-contaminated soils directly under the concrete slab of Building #3. Activities described herein will be initiated immediately upon removal of the overlaying building and the slab.

Prior to soil excavation, the entire area beneath the removed slab in Building #3 will be monitored by a qualified environmental professional (herein referred to as the On-Site Coordinator or "OSC") using a Thermal Instruments 580B photoionization detector (PID) calibrated to read parts per million calibration gas equivalents (ppm-cge) of isobutylene. Olfactory and visual indications of chemical/petroleum contamination will be noted in field logs. The OSC will be responsible for

identifying any soils which, in the opinion of the OSC, may contain elevated concentrations of contaminants and should therefore require special handling.

Those soils identified by the OSC will be removed to the management area for testing and off-site disposal. The OSC will also be on-site to ensure that unforeseen environmental conditions are managed in accordance with applicable federal and state environmental regulations.

Prior to excavation, discrete soil samples will be collected for waste characterization purposes (the number of samples will depend on the volume of soil). Analyses will be conducted consistent with the requirements of the waste repository. Analyses will be used to determine if the encountered soil will be handled as a hazardous or non-hazardous waste.

Soils that are either visibly stained or were identified in previous investigations as contaminated will be excavated in the course of the remediation project. Based on prior analyses, the initial 3 to 3.5 feet of encountered soils will be excavated for off-site disposal. Soils will be excavated and immediately placed into receptacles double-lined with plastic to prevent leakage. Prior to off-site transport, all receptacles will be brushed down or washed off to remove exterior dirt and the receptacle will be fully covered to prevent dirt from flying out during transport. The receptacles will be transported from the site by a licensed hauler who will be responsible for exiting the site and traveling on a pre-determined truck route. All manifests and supporting documentation of waste disposal will be maintained by the OSC for inclusion in the final report.

Confirmatory soil samples will be collected from each area where soil was removed including those areas found to be highly contaminated (if warranted), in a manner consistent with NYSDEC guidelines. After excavation of contaminated soils is performed, six (6) sample locations will be randomly selected over an established grid covering the footprint of the existing building and the area of soil excavation (these locations will be sited to evaluate the effectiveness of the soil removal). Samples will be collected from two discrete depths subsequent to the removal of the initial 3 to 3.5 feet layer of soil (i.e., sampling will begin at 3 to 3.5 feet below current surface grade level); these depths are designated as 0 - 0.5 feet and 3 - 3.5 feet (a total of 12 samples will be collected). If appropriate, samples will also be collected from areas found to be highly contaminated (e.g., beneath drum storage area).

Confirmatory samples will be analyzed for volatile organic compounds and semi-volatile organic compounds consistent with the NYSDEC's ASP Methods 95-1 and 95-2. All laboratory analyses will be performed by a NYSDOH ELAP-CLP certified laboratory. Appropriate chain of custody documentation will be maintained. Data from these analyses will determine the need for additional soil removal.

During the soil excavation procedures beneath the slab of Building #3, the OSC will field check the area beneath the slab for the presence of any wastewater discharge lines or any other discharge points. If lines or discharge points are encountered, the OSC will collect a sufficient number of soil samples from beneath the lines so as to properly characterize the presence of any contamination. All soil samples collected from beneath lines or discharge points will be collected and analyzed for VOCs and SVOCs in accordance with ASP Methods 95-1 and 95-2.

The OSC will monitor the removal of all contaminated soil including monitoring the trucks and establishing designated truck routes. All excavated soil will immediately be deposited into lined thirty cubic yard receptacles and covered with plastic sheeting prior to transport to a licensed facility. Licensed vehicles will be used to transport the excavated soil to the designated licensed facility and all soil receptacles will be covered during storage and transport. Appropriate measures will be taken to control the generation of fugitive dust from the trucks during transport. Transport of this soil will be performed by a licensed hauler and all manifests and supporting documentation of waste disposal will be maintained by the OSC for inclusion in the Final Report (see Section 2.2.8, below).

2.2.3 Closure of Two 10,000-gallon USTs and Two 275-gallon ASTs (Building #3)

Specifications for Tank Closure Services proposed for use in closing the two 10,000-gallon USTs are provided in Attachment G of this Final Workplan. These Specifications are consistent with NYSDEC Petroleum Bulk Storage Regulations (6 NYCRR, Part 612-614) and relevant NYSDEC guidance documents.

The two 275-gallon ASTs will be closed in a manner consistent with 6 NYCRR, Part 613.

2.2.4 Installation of a Vapor Barrier

A vapor barrier will be installed under the proposed foundation for the building in the footprint of former Building #3. The specific drawings and specifications for this barrier will be prepared and submitted to the NYSDEC for review. No installation will occur without prior written approval from the NYSDEC.

2.2.5 On-Site Construction Monitoring in the Vicinity of Building #1

Activities in the vicinity of Building #1 which may reasonably involve encountering regulated materials/wastes will be monitored by the OSC to ensure that unforeseen environmental conditions are managed in accordance with applicable federal and state environmental regulations. Activities which will be subject to monitoring include, but are not limited to:

- demolition of Building #1, including the removal of interior materials;
- closure of drains, pipes and other collection systems as well as the proper removal of encountered underground storage tanks in the footprint of Building #1; and
- post excavation soil quality testing to confirm the absence of contamination within the former footprint of Building #1.

RELATIONSHIP OF THE ON-SITE COORDINATOR TO OTHER SITE PERSONNEL

The specific responsibilities of the OSC are as follows:

- to conduct all technical environmental monitoring and remedial services outlined in this Workplan;
- to direct and manage site remediation services in conjunction with the Client and/or Client's development team;
- to provide recommendations to the Client and/or Client's development team on matters relating to site development and other environmental matters not addressed in this Workplan;
- to provide written and oral communication, as determined appropriate by the NYSDEC and/or Client, to the public regarding on site remediation progress.

PROCEDURES FOR MANAGING ENCOUNTERED CONTAMINATED SOILS

Documentation of on-site conditions indicates that petroleum contaminated soils may be encountered during the course of excavation activities. The OSC will be present during the initial stages of Site development to observe excavation activities. Specific activities which will be conducted by the OSC are the following:

1. The OSC will work with the excavator to locate a secure area on the Site for the management (e.g., loading, stockpiling, sampling, etc.) of suspect waste streams, including contaminated soils. The management area will be located in a place that will be the least disruptive to site activities and within an area that will prohibit community contact with any stockpiled materials (as discussed below, stockpiled soil will be appropriately covered).

2. The OSC will screen soils encountered after the demolition of Building #1 with a PID or comparable equipment. Olfactory and visual indications of chemical/petroleum contamination will be noted in field logs. The OSC will be responsible for identifying any soils which, in the opinion of the OSC, may contain elevated concentrations of contaminants and should therefore require special handling. Those soils identified by the OSC will be removed to the management area for testing and off-site disposal.

3. The OSC will ensure that all soil present on the site which may contain elevated levels of contaminants will be underlain and covered daily with 6 mil plastic sheeting; the overlaying plastic cover will be sufficiently weighted to prevent the cover from shifting.

4. The OSC will collect a sufficient number of samples from the stockpiled soil to provide documentation for proper soil transport and disposal. The specific analytes will be determined based on the requirements of the final repository. The determination of soil disposal procedures (e.g., disposal as a hazardous or non-hazardous petroleum waste) will be based on the laboratory results.

5. The OSC will identify waste haulers who hold appropriate licenses for waste transport and will provide the Client with all necessary services to facilitate the proper transport and disposal of stockpiled soils. The truck routes used during transport will be designated prior to transport to ensure appropriate tracking of all material. Waste transport and disposal manifests will be maintained by the OSC for inclusion in reports to the NYSDEC. It will be the express intent of the OSC to minimize the length of time that the soil remains on the site. To the extent practical, the OSC will work to have all stockpiled soil removed from the site within ten (10) business days.

6. Upon completion of all proposed excavation activities, the OSC will collect and have analyzed five (5) surface soil (0.5 - 1.0 foot depth) samples and five (5) mid-grade level (3.0 - 3.5 foot depth) samples from an established grid within the footprint of Building #1. The specific sample collection locations will be as follows: one sample will be collected from each corner, approximately five feet from the former walls (4 samples in all) and the fifth sample will be collected in the approximate center of the building footprint. These samples will be analyzed for VOCs and SVOCs in accordance with ASP Methods 95-1 and 95-2. In addition, the samples will also be analyzed for CLP-M metals; additional analytes may be warranted, given field observations.

7. During the course of monitoring activities in Building #1, the OSC will field check the area beneath the slab for the presence of any wastewater discharge lines or any other discharge points. If lines or discharge points are encountered, a sufficient number of soil samples from beneath the lines so as to properly characterize the presence of any contamination. All soil samples will be collected and analyzed in accordance with NYSDEC ASP Methods 95-1 and 95-2.

CONTINGENCY PLAN FOR OTHER ENCOUNTERED USTS

In the event that other underground storage tanks are encountered in the course of excavation work, the following course of action will be taken:

- a determination as to the size, type and integrity of each encountered tank will be made;
- a determination as to whether there is evidence of leakage and subsequent soil contamination in the vicinity of the encountered tank will be made;
- if contaminated soil is encountered, samples of the soil surrounding the tank and the pit walls will be collected and analyzed for those components the on-site OSC deems appropriate. The OSC will also determine whether the release is reportable to the NYSDEC; and
- upon receipt of all analytical results, a written report will be prepared detailing the types and extent of contamination, and remedial options available based upon the analytical results and field observations.

In the event that a significant quantity of contaminated soil remains in the excavation area so as to make continued removal and stockpiling of soil not a cost-effective remedial method, the OSC will submit a recommendation to the Client to terminate the excavation; alternate remedial options will then be discussed with the Client concerning the remediation of the remaining contaminated soil.

2.2.6 Groundwater Monitoring Well Closure

The two wells currently located within the footprint of Building 3 will be closed in accordance with the procedure outlined below. The two groundwater monitoring wells located on the South 4th Street sidewalk will be maintained for use by the NYSDEC in any future multi-site groundwater quality assessment.

The following procedure will be eventuated with respect to the closure of the on-site groundwater monitoring wells:

1. NOTICE

All appropriate agencies will be notified in writing of the proposed closure of groundwater monitoring wells.

2. PRE-CLOSURE ACTIVITIES

Any obstructions that could interfere with the sealing process will be removed. All pump bowls, columns, and other debris shall be removed from the well. The upper portion of the casing will be removed to a sufficient depth below proposed finish grade to ensure that the abandoned well will not present an obstruction to any future use of the site.

3. CASING/RISER REMOVAL

The well casing/riser in each well will be removed to a depth of 5 feet below grade.

4. CASINGS

The entire remaining casing, including the riser pipes and annular spaces between casings will be filled with a cement/bentonite mixture in the following ratio: one 94 pound bag Type I Portland cement, 3.9 pounds of powdered bentonite, and 7.8 gallons of potable water. The mixture, if appropriate, shall be placed under pressure through tremie pipes to the bottom of the space to be filled in order to prevent dilution of the mixture. The tremie pipe may be raised slowly as mixture is introduced to the casing or hole.

5. CASING SEAL

After the mixture has consolidated, as confirmed by visual inspection, the upper 5 feet of the well column will be filled with a material appropriate with the future use of the site or the area will be restored to the condition of the surrounding materials.

2.2.7 Post Construction Indoor Air Sampling

The proposed development of the subject property involves the demolition of Building #3 and construction of a new building within the footprint of Building #3; and the rehabilitation of Building #2. The classrooms will be within Building #2 with gymnasium and cafeteria in the new building that is to be built on top of the footprint of the former Building #3.

Subsequent to construction of the proposed building and prior to any occupancy, an indoor air sampling plan will be initiated to confirm the absence of organic vapors entering the building and affecting air quality. Sampling of indoor air quality will be performed in accordance with established New York State Department of Health protocols and will include analyses for the VOCs that have been detected in the on-site soil (by this time impacted soils have been removed from the site) and groundwater (see Tables 1, 2 and 3 of this Final Workplan for the specific compounds that have been detected).

Prior to the construction of the new building over the footprint of the former Building #3, contaminated soils will be removed. If necessary, certified clean soil will be placed within the excavated area and a vapor barrier will be installed. These measures are designed to remove the potential source of VOC's, and provide a supplemental barrier to prevent vapor migration into the new building. Air quality sampling will then be performed to confirm that the indoor air quality is clean.

Building #2 will be totally rehabilitated and all potential sources of any contaminants, as set forth in this workplan, will be eliminated. These activities will include removal of contaminants in the building, as well as capping all potential migration from the soil into the building basement (e.g. drain pipes). Once these actions have been completed, air quality sampling will be performed to verify the absence of contaminants in the indoor air.

2.2.7 Documentation of Site Remediation and/or Closure

At the completion of all site closure services, a Final Report summarizing all services performed on the subject property will be prepared. This Final Report will document the proper handling, removal and off-site disposal of any wastes requiring special handling and will include results of any laboratory analyses generated during activities described in this Final Workplan.

3.0 Time Schedule

The schedule outlined below will be maintained, unless revised by mutual consent of the NYSDEC and the Client.

Within one year of execution of Voluntary Clean-up Agreement:

- All drums/liquid chemical storage containers will be inventoried, labeled and properly disposed of off-site;
- ASTs located within Building #3 will be properly removed; and
- An interim report of project remediation will be submitted to the NYSDEC.

Within eighteen (18) months of execution of Voluntary Clean-up Agreement:

- Buildings #1 and #3 will be demolished (ACMs to be removed prior to demolition) and subgrade soils will be removed and properly disposed of in accordance with applicable regulations;
- Integrity of soils underlaying Building #1 will be documented;
- USTs located under Building #3 will be removed/closed; and
- A written Final Report summarizing the completion of said tasks will be provided to the NYSDEC, inclusive of supporting laboratory data sheets, manifests and other documents.

Within two years of execution of Voluntary Clean-up Agreement:

- Installation of the vapor barrier and soil vapor extraction system will be completed (if warranted); and
- A written Final Report summarizing the completion of said task will be provided to the NYSDEC, inclusive of supporting laboratory data sheets, manifests and other documents.

ATTACHMENT A-1

LABORATORY DATA PACKAGES FROM PREVIOUS TESTING

(SOIL TESTING)

MATRIX

ANALYTICAL DATA SUMMARY

Report Date:	12/20/96
Account:	Ecosystems Strategies
Address:	60 Worrall Ave. Poughkeepsie, NY 12603 914-452-1658
Project Manager:	Brad Fisher
Project Name:	PB96146.20 (12-13-96)
Project No.:	PB96146.20

Sample Information:

Laboratory ID	Client/Field ID
63486660-001	B-1(0-2')
63486660-002	B-1(15-17')
63486660-003	B-2(0-2')
63486660-004	B-2(5-7')
63486660-005	B-2(12-14')
63486660-006	SW-1
63486660-007	SW-2
63486660-008	VAT #1
63486660-009	VAT #2
63486660-010	QC Report-Soil
63486660-011	QC Report-Water

Reviewed by

Christine A. Larkin

Christine A. Larkin
Laboratory Manager

Lab Certifications

EPA ID: No. MA059
Massachusetts: No. M-MA059
Maine: Reciprocity
Rhode Island: No. 87
South Carolina: No. 88011
Florida(DEP): QA Plan No. 900437G
Florida(HRS): No. E87290
Connecticut: No. PH0515
New York: ELAP No. 11116
New Hampshire: No. 2041

Matrix Analytical, Inc.
106 South Street
Hopkinton, MA 01748-2295
1 (800) 362-8749

FINAL REPORT

Client Information

Account:	Ecosystems Strategies	Project Name:	PB96146.20 (12-13-96)
Address:	60 Worrall Ave.	Project Number:	PB96146.20
	Poughkeepsie, NY 12603	Project Manager:	Brad Fisher
		Sampler Name:	Brad Fisher

Sample Information

Lab ID:	63486660-001	Date Sampled:	12/11/96 14:00
Client ID:	B-1(0-2')	Date Received:	12/13/96 : 0
Matrix:	Soil	Date Reported:	12/20/96

Analytical Parameter	Result	Unit	Detection Limit	Method No.	Analyst	Date Analyzed
VOLATILE ORGANICS						
Acetone	ND	ug/kg	100	8240A	db	12/14/96
Benzene	ND	ug/kg	1	8240A	db	12/14/96
Bromodichloromethane	ND	ug/kg	5	8240A	db	12/14/96
Bromoform	ND	ug/kg	5	8240A	db	12/14/96
Bromomethane	ND	ug/kg	5	8240A	db	12/14/96
Carbon Tetrachloride	ND	ug/kg	5	8240A	db	12/14/96
Chlorobenzene	ND	ug/kg	5	8240A	db	12/14/96
Chloroethane	ND	ug/kg	5	8240A	db	12/14/96
Chloroform	ND	ug/kg	5	8240A	db	12/14/96
Chloromethane	ND	ug/kg	5	8240A	db	12/14/96
Dibromochloromethane	ND	ug/kg	5	8240A	db	12/14/96
1,2-Dichlorobenzene	ND	ug/kg	5	8240A	db	12/14/96
1,3-Dichlorobenzene	ND	ug/kg	5	8240A	db	12/14/96
1,4-Dichlorobenzene	ND	ug/kg	5	8240A	db	12/14/96
1,1-Dichloroethane	ND	ug/kg	5	8240A	db	12/14/96
1,2-Dichloroethane	ND	ug/kg	5	8240A	db	12/14/96
1,1-Dichloroethene	ND	ug/kg	5	8240A	db	12/14/96
cis-1,2-Dichloroethene	120	ug/kg	5	8240A	db	12/14/96
trans-1,2-Dichloroethene	ND	ug/kg	5	8240A	db	12/14/96
1,2-Dichloropropane	ND	ug/kg	5	8240A	db	12/14/96
cis-1,3-Dichloropropene	ND	ug/kg	5	8240A	db	12/14/96
trans-1,3-Dichloropropene	ND	ug/kg	5	8240A	db	12/14/96
Ethylbenzene	ND	ug/kg	5	8240A	db	12/14/96
Methylene Chloride	ND	ug/kg	5	8240A	db	12/14/96
Methyl Ethyl Ketone	ND	ug/kg	100	8240A	db	12/14/96

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Client Information

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Address:	60 Worrall Ave.	Project Number:	PB96146.20
	Poughkeepsie, NY 12603	Project Manager:	Brad Fisher
		Sampler Name:	Brad Fisher

Sample Information

Lab ID:	63486660-001	Date Sampled:	12/11/96 14:00
Client ID:	B-1(0-2')	Date Received:	12/13/96 : 0
Matrix:	Soil	Date Reported:	12/20/96

Analytical Parameter	Result	Unit	Detection Limit	Method No.	Analyst	Date Analyzed
VOLATILE ORGANICS						
MIBK	ND	ug/kg	50	8240A	db	12/14/96
MTBE	ND	ug/kg	5	8240A	db	12/14/96
1,1,2,2-Tetrachloroethane	ND	ug/kg	5	8240A	db	12/14/96
Tetrachloroethene	170	ug/kg	5	8240A	db	12/14/96
Toluene	ND	ug/kg	5	8240A	db	12/14/96
1,1,1-Trichloroethane	ND	ug/kg	5	8240A	db	12/14/96
1,1,2-Trichloroethane	ND	ug/kg	5	8240A	db	12/14/96
Trichloroethene	170	ug/kg	5	8240A	db	12/14/96
Trichlorofluoromethane	ND	ug/kg	5	8240A	db	12/14/96
Vinyl Chloride	ND	ug/kg	2	8240A	db	12/14/96
Xylene	ND	ug/kg	5	8240A	db	12/14/96
SURROGATE STUDIES - VOLATILES						
Bromofluorobenzene	86	Percent			db	12/14/96
1,2-Dichloroethane-D	95	Percent			db	12/14/96
Toluene-D	96	Percent			db	12/14/96
PAH's						
Extraction Date:	12/13/96				dr	
Acenaphthene	1,400	ug/kg	1000	8270A	jp	12/15/96
Acenaphthylene	ND	ug/kg	1000	8270A	jp	12/15/96
Anthracene	3,000	ug/kg	1000	8270A	jp	12/15/96
Benzo (a) Anthracene	7,900	ug/kg	1000	8270A	jp	12/15/96
Benzo (a) Pyrene	6,000	ug/kg	1000	8270A	jp	12/15/96
Benzo (b) Fluoranthene	7,100	ug/kg	1000	8270A	jp	12/15/96

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Address:	60 Worrall Ave.	Project Number:	PB96146.20
	Poughkeepsie, NY 12603	Project Manager:	Brad Fisher
		Sampler Name:	Brad Fisher

Sample Information

Lab ID:	63486660-001	Date Sampled:	12/11/96 14:00
Client ID:	B-1(0-2')	Date Received:	12/13/96 : 0
Matrix:	Soil	Date Reported:	12/20/96

Analytical Parameter	Result	Unit	Detection Limit	Method No.	Analyst	Date Analyzed
PAH's						
Benzo (k) Fluoranthene	2,500	ug/kg	1000	8270A	jp	12/15/96
Benzo (g,h,i) Perylene	2,300	ug/kg	1000	8270A	jp	12/15/96
Chrysene	9,000	ug/kg	1000	8270A	jp	12/15/96
Dibenzo (a,h) Acridine	ND	ug/kg	1000	8270A	jp	12/15/96
Dibenzo (a,j) Acridine	ND	ug/kg	1000	8270A	jp	12/15/96
Dibenzo (a,h) Anthracene	ND	ug/kg	1000	8270A	jp	12/15/96
7H-Dibenzo (c,g) Carbazole	ND	ug/kg	1000	8270A	jp	12/15/96
Dibenzo (a,e) Pyrene	ND	ug/kg	2500	8270A	jp	12/15/96
Dibenzo (a,i) Pyrene	ND	ug/kg	2500	8270A	jp	12/15/96
Dibenzo (a,h) Pyrene	ND	ug/kg	2500	8270A	jp	12/15/96
Fluoranthene	14,000	ug/kg	1000	8270A	jp	12/15/96
Fluorene	ND	ug/kg	1000	8270A	jp	12/15/96
Indeno (1,2,3-cd) Pyrene	1,900	ug/kg	1000	8270A	jp	12/15/96
2-Methyl Naphthalene	ND	ug/kg	1000	8270A	jp	12/15/96
3-Methylcholanthrene	ND	ug/kg	1000	8270A	jp	12/15/96
1-Methyl Naphthalene	ND	ug/kg	1000	8270A	jp	12/15/96
Naphthalene	3,400	ug/kg	1000	8270A	jp	12/15/96
Phenanthrene	19,000	ug/kg	1000	8270A	jp	12/15/96
Pyrene	19,000	ug/kg	1000	8270A	jp	12/15/96
The detection limit reported is based on a X10 dilution of the sample.						
SURROGATE STUDIES - BASE NEUTRALS						
2-Fluorobiphenyl	81	Percent			jp	12/15/96

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Client Information

Account: Ecosystems Strategies
Address: 60 Worrall Ave.
Poughkeepsie, NY 12603

Project Name: PB96146.20 (12-13-96)
Project Number: PB96146.20
Project Manager: Brad Fisher
Sampler Name: Brad Fisher

Sample Information

Lab ID: 63486660-001
Client ID: B-1(0-2')
Matrix: Soil

Date Sampled: 12/11/96 14:00
Date Received: 12/13/96 : 0
Date Reported: 12/20/96

Analytical Parameter	Result	Unit	Detection Limit	Method No.	Analyst	Date Analyze
SURROGATE STUDIES - BASE NEUTRALS						
Nitrobenzene-D5	74	Percent			jp	12/15/9
p-Terphenyl-D14	94	Percent			jp	12/15/9
MISCELLANEOUS TESTING						
Percent Moisture	22.6	Percent			rw	12/16/9

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Client Information

Account: Ecosystems Strategies
Address: 60 Worrall Ave.
Poughkeepsie, NY 12603

Project Name: PB96146.20 (12-13-96)
Project Number: PB96146.20
Project Manager: Brad Fisher
Sampler Name: Brad Fisher

Sample Information

Lab ID: 63486660-002
Client ID: B-1(15-17')
Matrix: Soil

Date Sampled: 12/11/96 14:30
Date Received: 12/13/96 : 0
Date Reported: 12/20/96

Analytical Parameter	Result	Unit	Detection Limit	Method No.	Analyst	Date Analyzed
VOLATILE ORGANICS						
Acetone	ND	ug/kg	100	8240A	db	12/14/96
Benzene	ND	ug/kg	1	8240A	db	12/14/96
Bromodichloromethane	ND	ug/kg	5	8240A	db	12/14/96
Bromoform	ND	ug/kg	5	8240A	db	12/14/96
Bromomethane	ND	ug/kg	5	8240A	db	12/14/96
Carbon Tetrachloride	ND	ug/kg	5	8240A	db	12/14/96
Chlorobenzene	ND	ug/kg	5	8240A	db	12/14/96
Chloroethane	ND	ug/kg	5	8240A	db	12/14/96
Chloroform	ND	ug/kg	5	8240A	db	12/14/96
Chloromethane	ND	ug/kg	5	8240A	db	12/14/96
Dibromochloromethane	ND	ug/kg	5	8240A	db	12/14/96
1,2-Dichlorobenzene	ND	ug/kg	5	8240A	db	12/14/96
1,3-Dichlorobenzene	ND	ug/kg	5	8240A	db	12/14/96
1,4-Dichlorobenzene	ND	ug/kg	5	8240A	db	12/14/96
1,1-Dichloroethane	ND	ug/kg	5	8240A	db	12/14/96
1,2-Dichloroethane	ND	ug/kg	5	8240A	db	12/14/96
1,1-Dichloroethene	ND	ug/kg	5	8240A	db	12/14/96
cis-1,2-Dichloroethene	ND	ug/kg	5	8240A	db	12/14/96
trans-1,2-Dichloroethene	ND	ug/kg	5	8240A	db	12/14/96
1,2-Dichloropropane	ND	ug/kg	5	8240A	db	12/14/96
cis-1,3-Dichloropropene	ND	ug/kg	5	8240A	db	12/14/96
trans-1,3-Dichloropropene	ND	ug/kg	5	8240A	db	12/14/96
Ethylbenzene	ND	ug/kg	5	8240A	db	12/14/96
Methylene Chloride	ND	ug/kg	5	8240A	db	12/14/96
Methyl Ethyl Ketone	ND	ug/kg	100	8240A	db	12/14/96

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Client Information

Account:	Ecosystems Strategies	Project Name:	PB96146.20 (12-13-96)
Address:	60 Worrall Ave.	Project Number:	PB96146.20
	Poughkeepsie, NY 12603	Project Manager:	Brad Fisher
		Sampler Name:	Brad Fisher

Sample Information

Lab ID:	63486660-002	Date Sampled:	12/11/96 14:30
Client ID:	B-1(15-17')	Date Received:	12/13/96 : 0
Matrix:	Soil	Date Reported:	12/20/96

Analytical Parameter	Result	Unit	Detection Limit	Method No.	Analyst	Date Analyzed
VOLATILE ORGANICS						
MIBK	ND	ug/kg	50	8240A	db	12/14/96
MTBE	ND	ug/kg	5	8240A	db	12/14/96
1,1,2,2-Tetrachloroethane	ND	ug/kg	5	8240A	db	12/14/96
Tetrachloroethene	ND	ug/kg	5	8240A	db	12/14/96
Toluene	ND	ug/kg	5	8240A	db	12/14/96
1,1,1-Trichloroethane	ND	ug/kg	5	8240A	db	12/14/96
1,1,2-Trichloroethane	ND	ug/kg	5	8240A	db	12/14/96
Trichloroethene	ND	ug/kg	5	8240A	db	12/14/96
Trichlorofluoromethane	ND	ug/kg	5	8240A	db	12/14/96
Vinyl Chloride	ND	ug/kg	2	8240A	db	12/14/96
Xylene	ND	ug/kg	5	8240A	db	12/14/96
SURROGATE STUDIES - VOLATILES						
Bromofluorobenzene	94	Percent			db	12/14/96
1,2-Dichloroethane-D	96	Percent			db	12/14/96
Toluene-D	97	Percent			db	12/14/96
PAH's						
Extraction Date:	12/13/96				dr	
Acenaphthene	ND	ug/kg	100	8270A	jp	12/15/96
Acenaphthylene	ND	ug/kg	100	8270A	jp	12/15/96
Anthracene	ND	ug/kg	100	8270A	jp	12/15/96
Benzo (a) Anthracene	ND	ug/kg	100	8270A	jp	12/15/96
Benzo (a) Pyrene	ND	ug/kg	100	8270A	jp	12/15/96
Benzo (b) Fluoranthene	ND	ug/kg	100	8270A	jp	12/15/96

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FINAL REPORT

Client Information

Account:	Ecosystems Strategies	Project Name:	PB96146.20 (12-13-96)
Address:	60 Worrall Ave.	Project Number:	PB96146.20
	Poughkeepsie, NY 12603	Project Manager:	Brad Fisher
		Sampler Name:	Brad Fisher

Sample Information

Lab ID:	63486660-002	Date Sampled:	12/11/96 14:30
Client ID:	B-1(15-17')	Date Received:	12/13/96 : 0
Matrix:	Soil	Date Reported:	12/20/96

Analytical Parameter	Result	Unit	Detection Limit	Method No.	Analyst	Date Analyzed
PAH's						
Benzo (k) Fluoranthene	ND	ug/kg	100	8270A	jp	12/15/96
Benzo (g,h,i) Perylene	ND	ug/kg	100	8270A	jp	12/15/96
Chrysene	ND	ug/kg	100	8270A	jp	12/15/96
Dibenzo (a,h) Acridine	ND	ug/kg	100	8270A	jp	12/15/96
Dibenzo (a,j) Acridine	ND	ug/kg	100	8270A	jp	12/15/96
Dibenzo (a,h) Anthracene	ND	ug/kg	100	8270A	jp	12/15/96
7H-Dibenzo (c,g) Carbazole	ND	ug/kg	100	8270A	jp	12/15/96
Dibenzo (a,e) Pyrene	ND	ug/kg	250	8270A	jp	12/15/96
Dibenzo (a,i) Pyrene	ND	ug/kg	250	8270A	jp	12/15/96
Dibenzo (a,h) Pyrene	ND	ug/kg	250	8270A	jp	12/15/96
Fluoranthene	ND	ug/kg	100	8270A	jp	12/15/96
Fluorene	ND	ug/kg	100	8270A	jp	12/15/96
Indeno (1,2,3-cd) Pyrene	ND	ug/kg	100	8270A	jp	12/15/96
2-Methyl Naphthalene	ND	ug/kg	100	8270A	jp	12/15/96
3-Methylcholanthrene	ND	ug/kg	100	8270A	jp	12/15/96
1-Methyl Naphthalene	ND	ug/kg	100	8270A	jp	12/15/96
Naphthalene	ND	ug/kg	100	8270A	jp	12/15/96
Phenanthrene	ND	ug/kg	100	8270A	jp	12/15/96
Pyrene	ND	ug/kg	100	8270A	jp	12/15/96
SURROGATE STUDIES - BASE NEUTRALS						
2-Fluorobiphenyl	53	Percent			jp	12/15/96
Nitrobenzene-D5	52	Percent			jp	12/15/96
p-Terphenyl-D14	93	Percent			jp	12/15/96
MISCELLANEOUS TESTING						
Percent Moisture	13.3	Percent			rw	12/16/96

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FINAL REPORT

Client Information

Account: Ecosystems Strategies
Address: 60 Worrall Ave.
Poughkeepsie, NY 12603

Project Name: PB96146.20 (12-13-96)
Project Number: PB96146.20
Project Manager: Brad Fisher
Sampler Name: Brad Fisher

Sample Information

Lab ID: 63486660-003
Client ID: B-2(0-2')
Matrix: Soil

Date Sampled: 12/11/96 15:30
Date Received: 12/13/96 : 0
Date Reported: 12/20/96

Analytical Parameter	Result	Unit	Detection Limit	Method No.	Analyst	Date Analyzed
VOLATILE ORGANICS						
Acetone	ND	ug/kg	10000	8240A	db	12/14/96
Benzene	ND	ug/kg	100	8240A	db	12/14/96
Bromodichloromethane	ND	ug/kg	500	8240A	db	12/14/96
Bromoform	ND	ug/kg	500	8240A	db	12/14/96
Bromomethane	ND	ug/kg	500	8240A	db	12/14/96
Carbon Tetrachloride	ND	ug/kg	500	8240A	db	12/14/96
Chlorobenzene	ND	ug/kg	500	8240A	db	12/14/96
Chloroethane	ND	ug/kg	500	8240A	db	12/14/96
Chloroform	ND	ug/kg	500	8240A	db	12/14/96
Chloromethane	ND	ug/kg	500	8240A	db	12/14/96
Dibromochloromethane	ND	ug/kg	500	8240A	db	12/14/96
1,2-Dichlorobenzene	ND	ug/kg	500	8240A	db	12/14/96
1,3-Dichlorobenzene	ND	ug/kg	500	8240A	db	12/14/96
1,4-Dichlorobenzene	ND	ug/kg	500	8240A	db	12/14/96
1,1-Dichloroethane	ND	ug/kg	500	8240A	db	12/14/96
1,2-Dichloroethane	ND	ug/kg	500	8240A	db	12/14/96
1,1-Dichloroethene	ND	ug/kg	500	8240A	db	12/14/96
cis-1,2-Dichloroethene	ND	ug/kg	500	8240A	db	12/14/96
trans-1,2-Dichloroethene	ND	ug/kg	500	8240A	db	12/14/96
1,2-Dichloropropane	ND	ug/kg	500	8240A	db	12/14/96
cis-1,3-Dichloropropene	ND	ug/kg	500	8240A	db	12/14/96
trans-1,3-Dichloropropene	ND	ug/kg	500	8240A	db	12/14/96
Ethylbenzene	ND	ug/kg	500	8240A	db	12/14/96
Methylene Chloride	ND	ug/kg	500	8240A	db	12/14/96
Methyl Ethyl Ketone	ND	ug/kg	10000	8240A	db	12/14/96

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FINAL REPORT

Client Information

Account:	Ecosystems Strategies	Project Name:	PB96146.20 (12-13-96)
Address:	60 Worrall Ave.	Project Number:	PB96146.20
	Poughkeepsie, NY 12603	Project Manager:	Brad Fisher
		Sampler Name:	Brad Fisher

Sample Information

Lab ID:	63486660-003	Date Sampled:	12/11/96 15:30
Client ID:	B-2(0-2')	Date Received:	12/13/96 : 0
Matrix:	Soil	Date Reported:	12/20/96

Analytical Parameter	Result	Unit	Detection Limit	Method No.	Analyst	Date Analyzed
VOLATILE ORGANICS						
MIBK	ND	ug/kg	5000	8240A	db	12/14/96
MTBE	ND	ug/kg	500	8240A	db	12/14/96
1,1,2,2-Tetrachloroethane	ND	ug/kg	500	8240A	db	12/14/96
Tetrachloroethene	5,500	ug/kg	500	8240A	db	12/14/96
Toluene	ND	ug/kg	500	8240A	db	12/14/96
1,1,1-Trichloroethane	ND	ug/kg	500	8240A	db	12/14/96
1,1,2-Trichloroethane	ND	ug/kg	500	8240A	db	12/14/96
Trichloroethene	3,700	ug/kg	500	8240A	db	12/14/96
Trichlorofluoromethane	ND	ug/kg	500	8240A	db	12/14/96
Vinyl Chloride	ND	ug/kg	200	8240A	db	12/14/96
Xylene	ND	ug/kg	500	8240A	db	12/14/96
The detection limit reported is based on a X100 dilution of the sample.						
SURROGATE STUDIES - VOLATILES						
Bromofluorobenzene	102	Percent			db	12/14/96
1,2-Dichloroethane-D	92	Percent			db	12/14/96
Toluene-D	98	Percent			db	12/14/96
PAH's						
Extraction Date:	12/13/96				dr	
Acenaphthene	ND	ug/kg	1000	8270A	jp	12/15/96
Acenaphthylene	ND	ug/kg	1000	8270A	jp	12/15/96
Anthracene	1,200	ug/kg	1000	8270A	jp	12/15/96

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FINAL REPORT

Client Information

Account: Ecosystems Strategies
Address: 60 Worrall Ave.
Poughkeepsie, NY 12603

Project Name: PB96146.20 (12-13-96)
Project Number: PB96146.20
Project Manager: Brad Fisher
Sampler Name: Brad Fisher

Sample Information

Lab ID: 63486660-003
Client ID: B-2(0-2')
Matrix: Soil

Date Sampled: 12/11/96 15:30
Date Received: 12/13/96 : 0
Date Reported: 12/20/96

Analytical Parameter	Result	Unit	Detection Limit	Method No.	Analyst	Date Analyzed
PAH's						
Benzo (a) Anthracene	3,300	ug/kg	1000	8270A	jp	12/15/96
Benzo (a) Pyrene	2,900	ug/kg	1000	8270A	jp	12/15/96
Benzo (b) Fluoranthene	4,000	ug/kg	1000	8270A	jp	12/15/96
Benzo (k) Fluoranthene	1,500	ug/kg	1000	8270A	jp	12/15/96
Benzo (g,h,i) Perylene	1,500	ug/kg	1000	8270A	jp	12/15/96
Chrysene	3,500	ug/kg	1000	8270A	jp	12/15/96
Dibenzo (a,h) Acridine	ND	ug/kg	1000	8270A	jp	12/15/96
Dibenzo (a,j) Acridine	ND	ug/kg	1000	8270A	jp	12/15/96
Dibenzo (a,h) Anthracene	ND	ug/kg	1000	8270A	jp	12/15/96
7H-Dibenzo (c,g) Carbazole	ND	ug/kg	1000	8270A	jp	12/15/96
Dibenzo (a,e) Pyrene	ND	ug/kg	2500	8270A	jp	12/15/96
Dibenzo (a,i) Pyrene	ND	ug/kg	2500	8270A	jp	12/15/96
Dibenzo (a,h) Pyrene	ND	ug/kg	2500	8270A	jp	12/15/96
Fluoranthene	7,300	ug/kg	1000	8270A	jp	12/15/96
Fluorene	ND	ug/kg	1000	8270A	jp	12/15/96
Indeno (1,2,3-cd) Pyrene	1,300	ug/kg	1000	8270A	jp	12/15/96
2-Methyl Naphthalene	ND	ug/kg	1000	8270A	jp	12/15/96
3-Methylcholanthrene	ND	ug/kg	1000	8270A	jp	12/15/96
1-Methyl Naphthalene	ND	ug/kg	1000	8270A	jp	12/15/96
Naphthalene	ND	ug/kg	1000	8270A	jp	12/15/96
Phenanthrene	6,100	ug/kg	1000	8270A	jp	12/15/96
Pyrene	6,100	ug/kg	1000	8270A	jp	12/15/96

The detection limit reported is based on a X10 dilution of the sample.

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FINAL REPORT

Client Information

Account:	Ecosystems Strategies	Project Name:	PB96146.20 (12-13-96)
Address:	60 Worrall Ave.	Project Number:	PB96146.20
	Poughkeepsie, NY 12603	Project Manager:	Brad Fisher
		Sampler Name:	Brad Fisher

Sample Information

Lab ID:	63486660-003	Date Sampled:	12/11/96 15:30
Client ID:	B-2(0-2')	Date Received:	12/13/96 : 0
Matrix:	Soil	Date Reported:	12/20/96

Analytical Parameter	Result	Unit	Detection Limit	Method No.	Analyst	Date Analyzed
SURROGATE STUDIES - BASE NEUTRALS						
2-Fluorobiphenyl	72	Percent			jp	12/15/96
Nitrobenzene-D5	78	Percent			jp	12/15/96
p-Terphenyl-D14	82	Percent			jp	12/15/96
MISCELLANEOUS TESTING						
Percent Moisture	10.3	Percent			rw	12/16/96

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FINAL REPORT

Client Information

Account: Ecosystems Strategies
Address: 60 Worrall Ave.
Poughkeepsie, NY 12603

Project Name: PB96146.20 (12-13-96)
Project Number: PB96146.20
Project Manager: Brad Fisher
Sampler Name: Brad Fisher

Sample Information

Lab ID: 63486660-004
Client ID: B-2(5-7')
Matrix: Soil

Date Sampled: 12/11/96 15:40
Date Received: 12/13/96 : 0
Date Reported: 12/20/96

Analytical Parameter	Result	Unit	Detection Limit	Method No.	Analyst	Date Analyzed
VOLATILE ORGANICS						
Acetone	ND	ug/kg	1000	8240A	db	12/16/96
Benzene	ND	ug/kg	10	8240A	db	12/16/96
Bromodichloromethane	ND	ug/kg	50	8240A	db	12/16/96
Bromoform	ND	ug/kg	50	8240A	db	12/16/96
Bromomethane	ND	ug/kg	50	8240A	db	12/16/96
Carbon Tetrachloride	ND	ug/kg	50	8240A	db	12/16/96
Chlorobenzene	ND	ug/kg	50	8240A	db	12/16/96
Chloroethane	ND	ug/kg	50	8240A	db	12/16/96
Chloroform	ND	ug/kg	50	8240A	db	12/16/96
Chloromethane	ND	ug/kg	50	8240A	db	12/16/96
Dibromochloromethane	ND	ug/kg	50	8240A	db	12/16/96
1,2-Dichlorobenzene	ND	ug/kg	50	8240A	db	12/16/96
1,3-Dichlorobenzene	ND	ug/kg	50	8240A	db	12/16/96
1,4-Dichlorobenzene	ND	ug/kg	50	8240A	db	12/16/96
1,1-Dichloroethane	ND	ug/kg	50	8240A	db	12/16/96
1,2-Dichloroethane	ND	ug/kg	50	8240A	db	12/16/96
1,1-Dichloroethene	ND	ug/kg	50	8240A	db	12/16/96
cis-1,2-Dichloroethene	ND	ug/kg	50	8240A	db	12/16/96
trans-1,2-Dichloroethene	ND	ug/kg	50	8240A	db	12/16/96
1,2-Dichloropropane	ND	ug/kg	50	8240A	db	12/16/96
cis-1,3-Dichloropropene	ND	ug/kg	50	8240A	db	12/16/96
trans-1,3-Dichloropropene	ND	ug/kg	50	8240A	db	12/16/96
Ethylbenzene	ND	ug/kg	50	8240A	db	12/16/96
Methylene Chloride	ND	ug/kg	50	8240A	db	12/16/96
Methyl Ethyl Ketone	ND	ug/kg	1000	8240A	db	12/16/96

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FINAL REPORT

Client Information

Account:	Ecosystems Strategies	Project Name:	PB96146.20 (12-13-96)
Address:	60 Worrall Ave.	Project Number:	PB96146.20
	Poughkeepsie, NY 12603	Project Manager:	Brad Fisher
		Sampler Name:	Brad Fisher

Sample Information

Lab ID:	63486660-004	Date Sampled:	12/11/96 15:40
Client ID:	B-2(5-7')	Date Received:	12/13/96 : 0
Matrix:	Soil	Date Reported:	12/20/96

Analytical Parameter	Result	Unit	Detection Limit	Method No.	Analyst	Date Analyzed
VOLATILE ORGANICS						
MIBK	ND	ug/kg	500	8240A	db	12/16/96
MTBE	ND	ug/kg	50	8240A	db	12/16/96
1,1,2,2-Tetrachloroethane	ND	ug/kg	50	8240A	db	12/16/96
Tetrachloroethene	ND	ug/kg	50	8240A	db	12/16/96
Toluene	1,400	ug/kg	50	8240A	db	12/16/96
1,1,1-Trichloroethane	71	ug/kg	50	8240A	db	12/16/96
1,1,2-Trichloroethane	ND	ug/kg	50	8240A	db	12/16/96
Trichloroethene	ND	ug/kg	50	8240A	db	12/16/96
Trichlorofluoromethane	ND	ug/kg	50	8240A	db	12/16/96
Vinyl Chloride	ND	ug/kg	20	8240A	db	12/16/96
Xylene	ND	ug/kg	50	8240A	db	12/16/96
The detection limit reported is based on a X10 dilution of the sample.						
SURROGATE STUDIES - VOLATILES						
Bromofluorobenzene	101	Percent			db	12/16/96
1,2-Dichloroethane-D	105	Percent			db	12/16/96
Toluene-D	100	Percent			db	12/16/96
MISCELLANEOUS TESTING						
Percent Moisture	13.4	Percent			rw	12/16/96

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FINAL REPORT

Client Information

Account:	Ecosystems Strategies	Project Name:	PB96146.20 (12-13-96)
Address:	60 Worrall Ave.	Project Number:	PB96146.20
	Poughkeepsie, NY 12603	Project Manager:	Brad Fisher
		Sampler Name:	Brad Fisher

Sample Information

Lab ID:	63486660-005	Date Sampled:	12/11/96 16:20
Client ID:	B-2(12-14')	Date Received:	12/13/96 : 0
Matrix:	Soil	Date Reported:	12/20/96

Analytical Parameter	Result	Unit	Detection Limit	Method No.	Analyst	Date Analyzed
VOLATILE ORGANICS						
Acetone	ND	ug/kg	100	8240A	db	12/14/96
Benzene	ND	ug/kg	1	8240A	db	12/14/96
Bromodichloromethane	ND	ug/kg	5	8240A	db	12/14/96
Bromoform	ND	ug/kg	5	8240A	db	12/14/96
Bromomethane	ND	ug/kg	5	8240A	db	12/14/96
Carbon Tetrachloride	ND	ug/kg	5	8240A	db	12/14/96
Chlorobenzene	ND	ug/kg	5	8240A	db	12/14/96
Chloroethane	ND	ug/kg	5	8240A	db	12/14/96
Chloroform	ND	ug/kg	5	8240A	db	12/14/96
Chloromethane	ND	ug/kg	5	8240A	db	12/14/96
Dibromochloromethane	ND	ug/kg	5	8240A	db	12/14/96
1,2-Dichlorobenzene	ND	ug/kg	5	8240A	db	12/14/96
1,3-Dichlorobenzene	ND	ug/kg	5	8240A	db	12/14/96
1,4-Dichlorobenzene	ND	ug/kg	5	8240A	db	12/14/96
1,1-Dichloroethane	ND	ug/kg	5	8240A	db	12/14/96
1,2-Dichloroethane	ND	ug/kg	5	8240A	db	12/14/96
1,1-Dichloroethene	ND	ug/kg	5	8240A	db	12/14/96
cis-1,2-Dichloroethene	ND	ug/kg	5	8240A	db	12/14/96
trans-1,2-Dichloroethene	ND	ug/kg	5	8240A	db	12/14/96
1,2-Dichloropropane	ND	ug/kg	5	8240A	db	12/14/96
cis-1,3-Dichloropropene	ND	ug/kg	5	8240A	db	12/14/96
trans-1,3-Dichloropropene	ND	ug/kg	5	8240A	db	12/14/96
Ethylbenzene	ND	ug/kg	5	8240A	db	12/14/96
Methylene Chloride	ND	ug/kg	5	8240A	db	12/14/96
Methyl Ethyl Ketone	ND	ug/kg	100	8240A	db	12/14/96

Matrix Analytical, Inc.
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Hopkinton, MA 01748-2295
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FINAL REPORT

Client Information

Account:	Ecosystems Strategies	Project Name:	PB96146.20 (12-13-96)
Address:	60 Worrall Ave.	Project Number:	PB96146.20
	Poughkeepsie, NY 12603	Project Manager:	Brad Fisher
		Sampler Name:	Brad Fisher

Sample Information

Lab ID:	63486660-005	Date Sampled:	12/11/96 16:20
Client ID:	B-2(12-14')	Date Received:	12/13/96 : 0
Matrix:	Soil	Date Reported:	12/20/96

Analytical Parameter	Result	Unit	Detection Limit	Method No.	Analyst	Date Analyzed
VOLATILE ORGANICS						
MIBK	ND	ug/kg	50	8240A	db	12/14/96
MTBE	ND	ug/kg	5	8240A	db	12/14/96
1,1,2,2-Tetrachloroethane	ND	ug/kg	5	8240A	db	12/14/96
Tetrachloroethene	ND	ug/kg	5	8240A	db	12/14/96
Toluene	ND	ug/kg	5	8240A	db	12/14/96
1,1,1-Trichloroethane	ND	ug/kg	5	8240A	db	12/14/96
1,1,2-Trichloroethane	ND	ug/kg	5	8240A	db	12/14/96
Trichloroethene	ND	ug/kg	5	8240A	db	12/14/96
Trichlorofluoromethane	ND	ug/kg	5	8240A	db	12/14/96
Vinyl Chloride	ND	ug/kg	2	8240A	db	12/14/96
Xylene	ND	ug/kg	5	8240A	db	12/14/96
SURROGATE STUDIES - VOLATILES						
Bromofluorobenzene	95	Percent			db	12/14/96
1,2-Dichloroethane-D	96	Percent			db	12/14/96
Toluene-D	97	Percent			db	12/14/96
MISCELLANEOUS TESTING						
Percent Moisture	3.8	Percent			rw	12/16/96

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FINAL REPORT

Client Information

Account:	Ecosystems Strategies	Project Name:	PB96146.20 (12-13-96)
Address:	60 Worrall Ave.	Project Number:	PB96146.20
	Poughkeepsie, NY 12603	Project Manager:	Brad Fisher
		Sampler Name:	

Sample Information

Lab ID:	63486660-010	Date Sampled:	/ / :
Client ID:	QC Report-Soil	Date Received:	12/13/96 : 0
Matrix:	Soil	Date Reported:	12/20/96

Analytical Parameter	Result	Unit	Detection Limit	Method No.	Analyst	Date Analyzed
METHOD BLANKS						
Method Blank - Semi Volatile	ND	ug/l		625/8270A		
Method Blank - Volatile	ND	ug/l		8240A		
MATRIX SPIKE STUDIES - VOLATILES						
Sample ID:	6589-002					
Benzene	104	Percent				
Chlorobenzene	102	Percent				
1,1-Dichloroethene	93	Percent				
Toluene	98	Percent				
Trichloroethene	100	Percent				

METHOD SUMMARIES

Acid/Base Neutral analysis is performed using H/P 5970 GC/MS systems with autosampler. Analysis is performed with J&W megabore column. Tuning is based on DFTPP criteria. Procedural guidelines described in SW846 are used for all analysis. Data reduction is accomplished using H/P RTE 1000 computer systems.

NOTE: Analytical results have been corrected and are reported on a dry weight basis. If required, detection limits can also be corrected to dry weight using the percent moisture data included in this report.

Volatile organic analysis is performed using H/P 5995 or 5970 GC/MS, Tekmar purge and trap, and ALS autosampler. Chromatography incorporates packed and megabore columns. Data reduction is performed on RTE 1000 and ChemStation systems. Tuning is based on BFB standards. Procedural guidelines follow EPA or SW846 for all analyses.

Matrix Analytical, Inc.
106 South Street
Hopkinton, MA 01748-2295
1 (800) 362-8749

FINAL REPORT

Client Information

Account:	Ecosystems Strategies
Address:	60 Worrall Ave.
	Poughkeepsie, NY 12603

Project Name:	PB96146.20 (12-13-96)
Project Number:	PB96146.20
Project Manager:	Brad Fisher
Sampler Name:	

Sample Information

Lab ID:	63486660-010
Client ID:	QC Report-Soil
Matrix:	Soil

Date Sampled:	/ / :
Date Received:	12/13/96 : 0
Date Reported:	12/20/96

Analytical Parameter	Result	Unit	Detection Limit	Method No.	Analyst	Date Analyzed

METHOD REFERENCES

1. Test Methods For Evaluating Solid Waste: Physical Chemical Methods. EPA SW 846. November 1986.
2. Methods For Chemical Analysis of Water and Wastes. EPA 600/4-79-200. Revised March 1983.
3. Standard Methods For Examination of Water and Wastewater. APHA-AWWA-WACF., 18th Edition. 1992.
4. EPA Methods For The Determination of Organic Compounds in Drinking Water.

Project Information	Client Information
Project Name: PB96/416.20	Send Reports to: BRAD FISHER
Project No.: PR96/416.20	Company: BIOSYSTEM STRATEGIES
Project Location: —	Address: 60 WORRALL AV
Project Manager: BRAD FISHER	PONOMKEEPSIE, NY 1260
Sampler(s): BRAD FISHER	Phone: 914 485-1658
	Fax: 914 485-7053
PO #: Lab Quote #:	Account # (Lab Use Only)
Turn-Around: ☐ Standard 10 business days ☑ Other (specify): RUSH FOR SOILS	Final Report: ☑ Mail ☐ Overnight ☑ Fax ☐ EDT Diskette (If checked, call for pricing) Disk format:
Note: Less than 10 days must be pre-approved!	

Form No. | Page 1

FILTRATION (0.45 um) & PRESERVATION INFORMATION

FILTRATION	PRESERVATION
☐ DONE	☐ DONE
☐ NOT NEEDED	☐ NOT NEEDED
☐ LAB TO DO*	☐ LAB TO DO*

**Please specify which samples need to be filtered and/or preserved by the lab.*

IF SPECIAL OR NON-ROUTINE DETECTION LIMITS ARE REQUIRED, PLEASE CALL THE LAB.

Lab ID (Lab Use Only)	Client/Field Sample ID	Collection Date	Collection Time	Sample Source / Matrix	8240	PAH's	pH	RCRA METALS + NICKEL	Sample Remarks (below)	TOTAL # OF BOTTLES
	B-1 (0-2')	12/11/96	2:00	SOIL	X	X			RUSH	2
	B-1 (15-17')	12/11/96	2:30	SOIL	X	X			RUSH	2
	B-2 (0-2')	12/11/96	3:30	SOIL	X	X			RUSH	2
	B-2 (5-7')	12/11/96	~~3:20~~ 3:40	SOIL	X				RUSH	1
	B-2 (12-14')	12/11/96	4:20	SOIL	X				RUSH	1
	SW-1	12/11/96	11:00	WATER	X					2
	SW-2	12/11/96	11:15	WATER	X					2
	VAT #1	12/11/96	11:30	WATER			X	X		1
	VAT #2	12/11/96	11:40	WATER			X	X		1

Matrix Analytical, Inc.
106 South Street
Hopkinton, MA 01748
Phone: (800) 362-8749
Fax: (508) 435-2497

NOTES:

CHAIN-OF-CUSTODY RECORD

Relinquished By:	Date/Time	Received By:	Date/Time	Condition of Samples Upon Arrival
	12/12/96 3:00		12-13-96/3:20	☐ Okay ☐ Problem(s)

Distribution of Copies

HAMPTON-CLARKE/VERITECH
VOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID : B-3-6"-2'6" SOIL
Date Rcvd/Extd: 03/31/97-N/A
Sample Matrix : Soil
Percent Solid : 84
Column : J&W DB-624 75M .53mm ID column

Lab Sample No. : AA44642
Lab File ID : >G1791
Date Analyzed : 04/02/97
Dilution Factor: 1
Sample Wt/Vol : 5.0g

CONCENTRATION UNITS: UG/KG(PPB)

CAS No.	COMPOUND	PQL	CONC
4873	Chloromethane	12	U
'4839	Bromomethane	12	U
5014	Vinyl Chloride	6	U
5003	Chloroethane	12	U
5092	Methylene Chloride	18	U
,7641	Acetone	24	U
5150	Carbon Disulfide	6	U
5694	Trichlorofluoromethane	6	U
'5354	1,1-Dichloroethene	2	U
'5343	1,1-Dichloroethane	6	U
56605	Trans-1,2-Dichloroethene	6	U
,7663	Chloroform	6	U
07062	1,2-Dichloroethane	2	U
8933	2-Butanone	30	U
1556	1,1,1-Trichloroethane	6	U
6235	Carbon Tetrachloride	2	U
08054	Vinyl Acetate	12	U
5274	Bromodichloromethane	1	U
8875	1,2-Dichloropropane	1	U
0061015	cis-1,3-Dichloropropene	6	U
9016	Trichloroethene	1	3
124481	Dibromochloromethane	6	U
79005	1,1,2-Trichloroethane	4	U
71432	Benzene	1	U
10061026	Trans-1,3-Dichloropropene	6	U
110758	2-Chloroethylvinylether	12	U
75252	Bromoform	5	U
108101	4-Methyl-2-Pentanone	30	U
591786	2-Hexanone	24	U
127184	Tetrachloroethene	1	8
79345	1,1,2,2-Tetrachloroethane	2	U
108883	Toluene	6	U
108907	Chlorobenzene	5	U
100414	Ethylbenzene	6	U
100425	Styrene	6	U
108383	m&p-Xylenes	6	U
95476	o-Xylene	6	U
541731	1,3-Dichlorobenzene	6	U
95501	1,2-Dichlorobenzene	6	U
106467	1,4-Dichlorobenzene	6	U
1634044	Methyl-t-butyl ether	6	U
108203	Di-isopropyl-ether	6	U
75650	t-Butyl Alcohol	120	U

TARGET COMPOUND SUMMARY: 11

DATA REPORTING QUALIFIERS

U - Indicates the compound was analyzed for but not detected.
J - Indicates an estimated value used when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the GC/MS instrument for that specific analyte.

HAMPTON-CLARKE/VERITECH
VOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID : B-3-4'6"-6'6" SOIL
Date Rcvd/Extd: 03/31/97-N/A
Sample Matrix : Soil
Percent Solid : 87
Column : J&W DB-624 75M .53mm ID column

Lab Sample No. : AA44643
Lab File ID : >G1770
Date Analyzed : 04/02/97
Dilution Factor: 1
Sample Wt/Vol : 5.0g

CONCENTRATION UNITS: UG/KG(PPB)

CAS No.	COMPOUND	PQL	CONC
4873	Chloromethane	11	U
4839	Bromomethane	11	U
5014	Vinyl Chloride	6	U
5003	Chloroethane	11	U
5092	Methylene Chloride	17	U
7641	Acetone	23	U
5150	Carbon Disulfide	6	U
5694	Trichlorofluoromethane	6	U
5354	1,1-Dichloroethene	2	U
5343	1,1-Dichloroethane	6	U
56605	Trans-1,2-Dichloroethene	6	U
7663	Chloroform	6	U
07062	1,2-Dichloroethane	2	U
8933	2-Butanone	29	U
1556	1,1,1-Trichloroethane	6	U
6235	Carbon Tetrachloride	2	U
08054	Vinyl Acetate	11	U
5274	Bromodichloromethane	1	U
3875	1,2-Dichloropropane	1	U
0061015	cis-1,3-Dichloropropene	6	U
9016	Trichloroethene	1	18

CAS NO.	COMPOUND	PQL	CONC
124481	Dibromochloromethane	6	U
79005	1,1,2-Trichloroethane	3	U
71432	Benzene	1	U
10061026	Trans-1,3-Dichloropropene	6	U
110758	2-Chloroethylvinylether	11	U
75252	Bromoform	5	U
108101	4-Methyl-2-Pentanone	29	U
591786	2-Hexanone	23	U
127184	Tetrachloroethene	1	55
79345	1,1,2,2-Tetrachloroethane	2	U
108883	Toluene	6	U
108907	Chlorobenzene	5	U
100414	Ethylbenzene	6	U
100425	Styrene	6	U
108383	m&p-Xylenes	6	U
95476	o-Xylene	6	U
541731	1,3-Dichlorobenzene	6	U
95501	1,2-Dichlorobenzene	6	U
106467	1,4-Dichlorobenzene	6	U
1634044	Methyl-t-butyl ether	6	U
108203	Di-isopropyl-ether	6	U
75650	t-Butyl Alcohol	110	U

TARGET COMPOUND SUMMARY: 73

DATA REPORTING QUALIFIERS

U - Indicates the compound was analyzed for but not detected.
J - Indicates an estimated value used when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the GC/MS instrument for that specific analyte.

HAMPTON-CLARKE/VERITECH
VOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID : B-3-8'6"-10'6" SOIL
Date Rcvd/Extd: 03/31/97-N/A
Sample Matrix : Soil
Percent Solid : 84
Column : J&W DB-624 75M .53mm ID column

Lab Sample No. : AA44644
Lab File ID : >G1771
Date Analyzed : 04/02/97
Dilution Factor: 1
Sample Wt/Vol : 5.0g

CONCENTRATION UNITS: UG/KG(PPB)

CAS No.	COMPOUND	PQL	CONC
74873	Chloromethane	12	U
74839	Bromomethane	12	U
75014	Vinyl Chloride	6	U
75003	Chloroethane	12	U
75092	Methylene Chloride	18	U
67641	Acetone	24	U
75150	Carbon Disulfide	6	U
75694	Trichlorofluoromethane	6	U
75354	1,1-Dichloroethene	2	U
75343	1,1-Dichloroethane	6	U
156605	Trans-1,2-Dichloroethene	6	U
67663	Chloroform	6	U
107062	1,2-Dichloroethane	2	U
78933	2-Butanone	30	U
71556	1,1,1-Trichloroethane	6	U
56235	Carbon Tetrachloride	2	U
108054	Vinyl Acetate	12	U
75274	Bromodichloromethane	1	U
78875	1,2-Dichloropropane	1	U
10061015	cis-1,3-Dichloropropene	6	U
79016	Trichloroethene	1	3

CAS NO.	COMPOUND	PQL	CONC
124481	Dibromochloromethane	6	U
79005	1,1,2-Trichloroethane	4	U
71432	Benzene	1	U
10061026	Trans-1,3-Dichloropropene	6	U
110758	2-Chloroethylvinylether	12	U
75252	Bromoform	5	U
108101	4-Methyl-2-Pentanone	30	U
591786	2-Hexanone	24	U
127184	Tetrachloroethene	1	4
79345	1,1,2,2-Tetrachloroethane	2	U
108883	Toluene	6	U
108907	Chlorobenzene	5	U
100414	Ethylbenzene	6	U
100425	Styrene	6	U
108383	m&p-Xylenes	6	U
95476	o-Xylene	6	U
541731	1,3-Dichlorobenzene	6	U
95501	1,2-Dichlorobenzene	6	U
106467	1,4-Dichlorobenzene	6	U
1634044	Methyl-t-butyl ether	6	U
108203	Di-isopropyl-ether	6	U
75650	t-Butyl Alcohol	120	U

TARGET COMPOUND SUMMARY: 7

DATA REPORTING QUALIFIERS

U - Indicates the compound was analyzed for but not detected.
J - Indicates an estimated value used when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the GC/MS instrument for that specific analyte.

HAMPTON-CLARKE/VERITECH
VOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID : B-4-6"-2'6" SOIL
Date Rcvd/Extd: 03/31/97-N/A
Sample Matrix : Soil
Percent Solid : 86
Column : J&W DB-624 75M .53mm ID column

Lab Sample No. : AA44645
Lab File ID : >G1796
Date Analyzed : 04/02/97
Dilution Factor: 5
Sample Wt/Vol : 1.0g

CONCENTRATION UNITS: UG/KG(PPB)

CAS No.	COMPOUND	PQL	CONC
'4873	Chloromethane	58	U
'4839	Bromomethane	58	U
'5014	Vinyl Chloride	29	U
'5003	Chloroethane	58	U
'5092	Methylene Chloride	87	U
.7641	Acetone	120	U
'5150	Carbon Disulfide	29	U
'5694	Trichlorofluoromethane	29	U
'5354	1,1-Dichloroethene	12	U
'5343	1,1-Dichloroethane	29	U
.56605	Trans-1,2-Dichloroethene	29	U
.7663	Chloroform	29	U
.07062	1,2-Dichloroethane	12	U
'8933	2-Butanone	150	U
'1556	1,1,1-Trichloroethane	29	U
'6235	Carbon Tetrachloride	12	U
.08054	Vinyl Acetate	58	U
'5274	Bromodichloromethane	6	U
'8875	1,2-Dichloropropane	6	U
.0061015	cis-1,3-Dichloropropene	29	U
'9016	Trichloroethene	6	1100

CAS NO.	COMPOUND	PQL	CONC
124481	Dibromochloromethane	29	U
79005	1,1,2-Trichloroethane	17	U
71432	Benzene	6	U
10061026	Trans-1,3-Dichloropropene	29	U
110758	2-Chloroethylvinylether	58	U
75252	Bromoform	23	U
108101	4-Methyl-2-Pentanone	150	U
591786	2-Hexanone	120	U
127184	Tetrachloroethene	6	370
79345	1,1,2,2-Tetrachloroethane	12	U
108883	Toluene	29	U
108907	Chlorobenzene	23	U
100414	Ethylbenzene	29	U
100425	Styrene	29	U
108383	m&p-Xylenes	29	U
95476	o-Xylene	29	U
541731	1,3-Dichlorobenzene	29	U
95501	1,2-Dichlorobenzene	29	U
106467	1,4-Dichlorobenzene	29	U
1634044	Methyl-t-butyl ether	29	U
108203	Di-isopropyl-ether	29	U
75650	t-Butyl Alcohol	580	U

TARGET COMPOUND SUMMARY: 1470

DATA REPORTING QUALIFIERS

U - Indicates the compound was analyzed for but not detected.
J - Indicates an estimated value used when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the GC/MS instrument for that specific analyte.

HAMPTON-CLARKE/VERITECH
VOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID : B-4-4'6"-6'6" SOIL
Date Rcvd/Extd: 03/31/97-N/A
Sample Matrix : Soil
Percent Solid : 85
Column : J&W DB-624 75M .53mm ID column

Lab Sample No. : AA44646
Lab File ID : >G1773
Date Analyzed : 04/02/97
Dilution Factor: 1
Sample Wt/Vol : 5.0g

CONCENTRATION UNITS: UG/KG(PPB)

AS No.	COMPOUND	PQL	CONC
4873	Chloromethane	12	U
4839	Bromomethane	12	U
5014	Vinyl Chloride	6	U
5003	Chloroethane	12	U
5092	Methylene Chloride	18	U
7641	Acetone	24	56
5150	Carbon Disulfide	6	U
5694	Trichlorofluoromethane	6	U
5354	1,1-Dichloroethene	2	U
5343	1,1-Dichloroethane	6	U
56605	Trans-1,2-Dichloroethene	6	U
7663	Chloroform	6	U
07062	1,2-Dichloroethane	2	U
8933	2-Butanone	29	U
1556	1,1,1-Trichloroethane	6	U
6235	Carbon Tetrachloride	2	U
08054	Vinyl Acetate	12	U
5274	Bromodichloromethane	1	U
8875	1,2-Dichloropropane	1	U
0061015	cis-1,3-Dichloropropene	6	U
9016	Trichloroethene	1	150

CAS NO.	COMPOUND	PQL	CONC
124481	Dibromochloromethane	6	U
79005	1,1,2-Trichloroethane	4	U
71432	Benzene	1	U
10061026	Trans-1,3-Dichloropropene	6	U
110758	2-Chloroethylvinylether	12	U
75252	Bromoform	5	U
108101	4-Methyl-2-Pentanone	29	U
591786	2-Hexanone	24	U
127184	Tetrachloroethene	1	59
79345	1,1,2,2-Tetrachloroethane	2	U
108883	Toluene	6	U
108907	Chlorobenzene	5	U
100414	Ethylbenzene	6	U
100425	Styrene	6	U
108383	m&p-Xylenes	6	U
95476	o-Xylene	6	U
541731	1,3-Dichlorobenzene	6	U
95501	1,2-Dichlorobenzene	6	U
106467	1,4-Dichlorobenzene	6	U
1634044	Methyl-t-butyl ether	6	U
108203	Di-isopropyl-ether	6	U
75650	t-Butyl Alcohol	120	U

TARGET COMPOUND SUMMARY: 265

DATA REPORTING QUALIFIERS

U - Indicates the compound was analyzed for but not detected.
J - Indicates an estimated value used when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the GC/MS instrument for that specific analyte.

HAMPTON-CLARKE/VERITECH
VOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID : B-4-8'6"-10'6" SOIL
Date Rcvd/Extd: 03/31/97-N/A
Sample Matrix : Soil
Percent Solid : 81
Column : J&W DB-624 75M .53mm ID column

Lab Sample No. : AA44647
Lab File ID :)G1792
Date Analyzed : 04/02/97
Dilution Factor: 1
Sample Wt/Vol : 5.0g

CONCENTRATION UNITS: UG/KG(PPB)

AS No.	COMPOUND	PQL	CONC
4873	Chloromethane	12	U
4839	Bromomethane	12	U
5014	Vinyl Chloride	6	U
5003	Chloroethane	12	U
5092	Methylene Chloride	19	U
7641	Acetone	25	37
5150	Carbon Disulfide	6	U
5694	Trichlorofluoromethane	6	U
5354	1,1-Dichloroethene	2	U
5343	1,1-Dichloroethane	6	U
56605	Trans-1,2-Dichloroethene	6	U
7663	Chloroform	6	U
07062	1,2-Dichloroethane	2	U
8933	2-Butanone	31	U
1556	1,1,1-Trichloroethane	6	U
6235	Carbon Tetrachloride	2	U
08054	Vinyl Acetate	12	U
5274	Bromodichloromethane	1	U
8875	1,2-Dichloropropane	1	U
0061015	cis-1,3-Dichloropropene	6	U
9016	Trichloroethene	1	66

CAS NO.	COMPOUND	PQL	CONC
124481	Dibromochloromethane	6	U
79005	1,1,2-Trichloroethane	4	U
71432	Benzene	1	U
10061026	Trans-1,3-Dichloropropene	6	U
110758	2-Chloroethylvinylether	12	U
75252	Bromoform	5	U
108101	4-Methyl-2-Pentanone	31	U
591786	2-Hexanone	25	U
127184	Tetrachloroethene	1	32
79345	1,1,2,2-Tetrachloroethane	2	U
108883	Toluene	6	U
108907	Chlorobenzene	5	U
100414	Ethylbenzene	6	U
100425	Styrene	6	U
108383	m&p-Xylenes	6	U
95476	o-Xylene	6	U
541731	1,3-Dichlorobenzene	6	U
95501	1,2-Dichlorobenzene	6	U
106467	1,4-Dichlorobenzene	6	U
1634044	Methyl-t-butyl ether	6	U
108203	Di-isopropyl-ether	6	U
75650	t-Butyl Alcohol	120	U

TARGET COMPOUND SUMMARY: 135

DATA REPORTING QUALIFIERS

U - Indicates the compound was analyzed for but not detected.
J - Indicates an estimated value used when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the GC/MS instrument for that specific analyte.

HAMPTON-CLARKE/VERITECH

VOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID : B-5 6"-2'6" SOIL
Date Rcvd/Extd: 03/31/97-N/A
Sample Matrix : Soil
Percent Solid : 87
Column : J&W DB-624 75M .53mm ID column

Lab Sample No. : AA44648
Lab File ID : >G1805
Date Analyzed : 04/03/97
Dilution Factor: 1
Sample Wt/Vol : 5.0g

CONCENTRATION UNITS: UG/KG(PPB)

CAS No.	COMPOUND	PQL	CONC
74873	Chloromethane	11	U
74839	Bromomethane	11	U
75014	Vinyl Chloride	6	U
75003	Chloroethane	11	U
75092	Methylene Chloride	17	23
67641	Acetone	23	46
75150	Carbon Disulfide	6	U
75694	Trichlorofluoromethane	6	U
75354	1,1-Dichloroethene	2	U
75343	1,1-Dichloroethane	6	U
156605	Trans-1,2-Dichloroethene	6	U
67663	Chloroform	6	U
107062	1,2-Dichloroethane	2	U
78933	2-Butanone	29	U
71556	1,1,1-Trichloroethane	6	U
56235	Carbon Tetrachloride	2	U
108054	Vinyl Acetate	11	U
75274	Bromodichloromethane	1	U
78875	1,2-Dichloropropane	1	U
10061015	cis-1,3-Dichloropropene	6	U
79016	Trichloroethene	1	100
124481	Dibromochloromethane	6	U
79005	1,1,2-Trichloroethane	3	U
71432	Benzene	1	U
10061026	Trans-1,3-Dichloropropene	6	U
110758	2-Chloroethylvinylether	11	U
75252	Bromoform	5	U
108101	4-Methyl-2-Pentanone	29	U
591786	2-Hexanone	23	U
127184	Tetrachloroethene	1	63
79345	1,1,2,2-Tetrachloroethane	2	U
108883	Toluene	6	U
108907	Chlorobenzene	5	U
100414	Ethylbenzene	6	U
100425	Styrene	6	U
108383	m&p-Xylenes	6	U
95476	o-Xylene	6	U
541731	1,3-Dichlorobenzene	6	U
95501	1,2-Dichlorobenzene	6	U
106467	1,4-Dichlorobenzene	6	U
1634044	Methyl-t-butyl ether	6	U
108203	Di-isopropyl-ether	6	U
75650	t-Butyl Alcohol	110	U

TARGET COMPOUND SUMMARY: 232

DATA REPORTING QUALIFIERS

U - Indicates the compound was analyzed for but not detected.
J - Indicates an estimated value used when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the GC/MS instrument for that specific analyte.

HAMPTON-CLARKE/VERITECH
VOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID : B-5-4'6"-6'6" SOIL
Date Rcvd/Extd: 03/31/97-N/A
Sample Matrix : Soil
Percent Solid : 83
Column : J&W DB-624 75M .53mm ID column

Lab Sample No. : AA44649
Lab File ID : >G1794
Date Analyzed : 04/02/97
Dilution Factor: 1
Sample Wt/Vol : 5.0g

CONCENTRATION UNITS: UG/KG(PPB)

AS No.	COMPOUND	PQL	CONC	CAS NO.	COMPOUND	PQL	CONC
'4873	Chloromethane	12	U	124481	Dibromochloromethane	6	U
4839	Bromomethane	12	U	79005	1,1,2-Trichloroethane	4	U
5014	Vinyl Chloride	6	U	71432	Benzene	1	U
'5003	Chloroethane	12	U	10061026	Trans-1,3-Dichloropropene	6	U
5092	Methylene Chloride	18	U	110758	2-Chloroethylvinylether	12	U
7641	Acetone	24	U	75252	Bromoform	5	U
'5150	Carbon Disulfide	6	U	108101	4-Methyl-2-Pentanone	30	U
'5694	Trichlorofluoromethane	6	U	591786	2-Hexanone	24	U
5354	1,1-Dichloroethene	2	U	127184	Tetrachloroethene	1	2
'5343	1,1-Dichloroethane	6	U	79345	1,1,2,2-Tetrachloroethane	2	U
56605	Trans-1,2-Dichloroethene	6	U	108883	Toluene	6	U
7663	Chloroform	6	U	108907	Chlorobenzene	5	U
.07062	1,2-Dichloroethane	2	U	100414	Ethylbenzene	6	U
'8933	2-Butanone	30	U	100425	Styrene	6	U
1556	1,1,1-Trichloroethane	6	U	108383	m&p-Xylenes	6	U
6235	Carbon Tetrachloride	2	U	95476	o-Xylene	6	U
.08054	Vinyl Acetate	12	U	541731	1,3-Dichlorobenzene	6	U
'5274	Bromodichloromethane	1	U	95501	1,2-Dichlorobenzene	6	U
8875	1,2-Dichloropropane	1	U	106467	1,4-Dichlorobenzene	6	U
.0061015	cis-1,3-Dichloropropene	6	U	1634044	Methyl-t-butyl ether	6	U
'9016	Trichloroethene	1	5	108203	Di-isopropyl-ether	6	U
				75650	t-Butyl Alcohol	120	U

TARGET COMPOUND SUMMARY: 7

DATA REPORTING QUALIFIERS

U - Indicates the compound was analyzed for but not detected.
J - Indicates an estimated value used when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the GC/MS instrument for that specific analyte.

HAMPTON-CLARKE/VERITECH
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID : B-5-6"-2'6" SOIL
Date Rcvd/Extd: 03/31/97-04/02/97
Sample Matrix : Soil
Percent Solid : 87
Column : SUPELCO PTE-5 30m .25mm ID Column

Lab Sample No. : AA44648(
Lab File ID :)F9646
Date Analyzed : 04/03/97
Dilution Factor: 3
Sample Wt/Vol : 30g

CONCENTRATION UNITS: UG/KG(PPB)

CAS No.	COMPOUND	PQL	CONC	CAS NO.	COMPOUND	PQL	CONC
1203	Naphthalene	570	1000	56553	Benzo(a)Anthracene	570	4300
08968	Acenaphthylene	570	U	218019	Chrysene	570	4500
3329	Acenaphthene	570	1100	205992	Benzo(b)Fluoranthene	570	5700
6737	Fluorene	570	600	207089	Benzo(k)Fluoranthene	230	1800
5018	Phenanthrene	570	9000	50328	Benzo(a)Pyrene	570	3800
20127	Anthracene	570	1600	193395	Indeno(1,2,3-cd)Pyrene	570	1500
06440	Fluoranthene	570	9700	53703	Dibenzo(a,h)Anthracene	570	510J
29000	Pyrene	570	8000	191242	Benzo(g,h,i)Perylene	570	1500

TARGET COMPOUND SUMMARY: 54100

DATA REPORTING QUALIFIERS

U - Indicates the compound was analyzed for but not detected.
J - Indicates an estimated value used when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the GC/MS instrument for that specific analyte.

HAMPTON-CLARKE/VERITECH
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID : B-5-4'6"-6'6" SOIL
Date Rcvd/Extd: 03/31/97-04/02/97
Sample Matrix : Soil
Percent Solid : 83
Column : SUPELCO PTE-5 30m .25mm ID Column

Lab Sample No. : AA44649
Lab File ID : >F8631
Date Analyzed : 04/02/97
Dilution Factor: 1
Sample Wt/Vol : 30g

CONCENTRATION UNITS: UG/KG(PPB)

CAS No.	COMPOUND	PQL	CONC	CAS NO.	COMPOUND	PQL	CONC
1203	Naphthalene	200	U	56553	Benzo(a)Anthracene	200	78J
08968	Acenaphthylene	200	U	218019	Chrysene	200	78J
3329	Acenaphthene	200	U	205992	Benzo(b)Fluoranthene	200	U
6737	Fluorene	200	U	207089	Benzo(k)Fluoranthene	80	U
5018	Phenanthrene	200	130J	50328	Benzo(a)Pyrene	200	U
20127	Anthracene	200	U	193395	Indeno(1,2,3-cd)Pyrene	200	U
06440	Fluoranthene	200	160J	53703	Dibenzo(a,h)Anthracene	200	U
29000	Pyrene	200	140J	191242	Benzo(g,h,i)Perylene	200	U

TARGET COMPOUND SUMMARY: 0

DATA REPORTING QUALIFIERS

U - Indicates the compound was analyzed for but not detected.
J - Indicates an estimated value used when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the GC/MS instrument for that specific analyte.

HAMPTON-CLARKE/VERITECH
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID : B-5-8'6"-10'6" SOIL
Date Rcvd/Extd: 03/31/97-04/02/97
Sample Matrix : Soil
Percent Solid : 88
Column : SUPELCO PTE-5 30m .25mm ID Column

Lab Sample No. : AA44650
Lab File ID : >F8632
Date Analyzed : 04/03/97
Dilution Factor: 1
Sample Wt/Vol : 30g

CONCENTRATION UNITS: UG/KG(PPB)

CAS No.	COMPOUND	PQL	CONC	CAS NO.	COMPOUND	PQL	CONC
1203	Naphthalene	190	U	56553	Benzo(a)Anthracene	190	U
98968	Acenaphthylene	190	U	218019	Chrysene	190	U
3329	Acenaphthene	190	U	205992	Benzo(b)Fluoranthene	190	U
6737	Fluorene	190	U	207089	Benzo(k)Fluoranthene	76	U
5018	Phenanthrene	190	U	50328	Benzo(a)Pyrene	190	U
20127	Anthracene	190	U	193395	Indeno(1,2,3-cd)Pyrene	190	U
06440	Fluoranthene	190	U	53703	Dibenzo(a,h)Anthracene	190	U
29000	Pyrene	190	U	191242	Benzo(g,h,i)Perylene	190	U

TARGET COMPOUND SUMMARY: 0

DATA REPORTING QUALIFIERS

U - Indicates the compound was analyzed for but not detected.
J - Indicates an estimated value used when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the GC/MS instrument for that specific analyte.

HAMPTON-CLARKE/VERITECH
VOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID : B-5-8'6"-10'6" SOIL
Date Rcvd/Extd: 03/31/97-N/A
Sample Matrix : Soil
Percent Solid : 88
Column : J&W DB-624 75M .53mm ID column

Lab Sample No. : AA44650
Lab File ID : >G1795
Date Analyzed : 04/02/97
Dilution Factor: 1
Sample Wt/Vol : 5.0g

CONCENTRATION UNITS: UG/KG(PPB)

AS No.	COMPOUND	PQL	CONC	CAS NO.	COMPOUND	PQL	CONC
4873	Chloromethane	11	U	124481	Dibromochloromethane	6	U
4839	Bromomethane	11	U	79005	1,1,2-Trichloroethane	3	U
5014	Vinyl Chloride	6	U	71432	Benzene	1	U
5003	Chloroethane	11	U	10061026	Trans-1,3-Dichloropropene	6	U
5092	Methylene Chloride	17	U	110758	2-Chloroethylvinylether	11	U
7641	Acetone	23	U	75252	Bromoform	5	U
5150	Carbon Disulfide	6	U	108101	4-Methyl-2-Pentanone	28	U
5694	Trichlorofluoromethane	6	U	591786	2-Hexanone	23	U
5354	1,1-Dichloroethene	2	U	127184	Tetrachloroethene	1	4
5343	1,1-Dichloroethane	6	U	79345	1,1,2,2-Tetrachloroethane	2	U
56605	Trans-1,2-Dichloroethene	6	U	108883	Toluene	6	U
7663	Chloroform	6	U	108907	Chlorobenzene	5	U
07062	1,2-Dichloroethane	2	U	100414	Ethylbenzene	6	U
8933	2-Butanone	28	U	100425	Styrene	6	U
1556	1,1,1-Trichloroethane	6	U	108383	m&p-Xylenes	6	U
6235	Carbon Tetrachloride	2	U	95476	o-Xylene	6	U
08054	Vinyl Acetate	11	U	541731	1,3-Dichlorobenzene	6	U
5274	Bromodichloromethane	1	U	95501	1,2-Dichlorobenzene	6	U
8875	1,2-Dichloropropane	1	U	106467	1,4-Dichlorobenzene	6	U
0061015	cis-1,3-Dichloropropene	6	U	1634044	Methyl-t-butyl ether	6	U
9016	Trichloroethene	1	7	108203	Di-isopropyl-ether	6	U
				75650	t-Butyl Alcohol	110	U

TARGET COMPOUND SUMMARY: 11

DATA REPORTING QUALIFIERS

U - Indicates the compound was analyzed for but not detected.
J - Indicates an estimated value used when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the GC/MS instrument for that specific analyte.

HAMPTON-CLARKE/VERITECH
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID : B-3-6"-2'6" SOIL
Date Rcvd/Extd: 03/31/97-04/02/97
Sample Matrix : Soil
Percent Solid : 84
Column : SUPELCO PTE-5 30m .25mm ID Column

Lab Sample No. : AA44642(
Lab File ID : >F8645
Date Analyzed : 04/03/97
Dilution Factor: 3
Sample Wt/Vol : 30g

CONCENTRATION UNITS: UG/KG(PPB)

AS No.	COMPOUND	PQL	CONC	CAS NO.	COMPOUND	PQL	CONC
1203	Naphthalene	600	560J	56553	Benzo(a)Anthracene	600	3100
08968	Acenaphthylene	600	U	218019	Chrysene	600	3000
3329	Acenaphthene	600	790	205992	Benzo(b)Fluoranthene	600	3300
6737	Fluorene	600	830	207089	Benzo(k)Fluoranthene	240	1200
5018	Phenanthrene	600	7100	50328	Benzo(a)Pyrene	600	2600
20127	Anthracene	600	1600	193395	Indeno(1,2,3-cd)Pyrene	600	1200
06440	Fluoranthene	600	6900	53703	Dibenzo(a,h)Anthracene	600	320J
29000	Pyrene	600	5900	191242	Benzo(g,h,i)Perylene	600	1200

TARGET COMPOUND SUMMARY: 38720

DATA REPORTING QUALIFIERS

U - Indicates the compound was analyzed for but not detected.
J - Indicates an estimated value used when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the GC/MS instrument for that specific analyte.

HAMPTON-CLARKE/VERITECH
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID : B-3-4'6"-6'6" SOIL
Date Rcvd/Extd: 03/31/97-04/02/97
Sample Matrix : Soil
Percent Solid : 87
Column : SUPELCO PTE-5 30m .25mm ID Column

Lab Sample No. : AA44643
Lab File ID : >F8625
Date Analyzed : 04/02/97
Dilution Factor: 1
Sample Wt/Vol : 30g

CONCENTRATION UNITS: UG/KG(PPB)

AS No.	COMPOUND	PQL	CONC	CAS NO.	COMPOUND	PQL	CONC
1203	Naphthalene	190	U	56553	Benzo(a)Anthracene	190	U
08968	Acenaphthylene	190	U	218019	Chrysene	190	U
3329	Acenaphthene	190	U	205992	Benzo(b)Fluoranthene	190	U
6737	Fluorene	190	U	207089	Benzo(k)Fluoranthene	77	U
5018	Phenanthrene	190	99J	50328	Benzo(a)Pyrene	190	U
20127	Anthracene	190	U	193395	Indeno(1,2,3-cd)Pyrene	190	U
06440	Fluoranthene	190	95J	53703	Dibenzo(a,h)Anthracene	190	U
29000	Pyrene	190	82J	191242	Benzo(g,h,i)Perylene	190	U

TARGET COMPOUND SUMMARY: 0

DATA REPORTING QUALIFIERS

U - Indicates the compound was analyzed for but not detected.
J - Indicates an estimated value used when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the GC/MS instrument for that specific analyte.

HAMPTON-CLARKE/VERITECH
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID : B-3-8'6"-10'6" SOIL
Date Rcvd/Extd: 03/31/97-04/02/97
Sample Matrix : Soil
Percent Solid : 84
Column : SUPELCO PTE-5 30m .25mm ID Column

Lab Sample No. : AA44644
Lab File ID : >F8626
Date Analyzed : 04/02/97
Dilution Factor: 1
Sample Wt/Vol : 30g

CONCENTRATION UNITS: UG/KG(PPB)

AS No.	COMPOUND	PQL	CONC	CAS NO.	COMPOUND	PQL	CONC
1203	Naphthalene	200	U	56553	Benzo(a)Anthracene	200	200J
08968	Acenaphthylene	200	U	218019	Chrysene	200	200J
3329	Acenaphthene	200	U	205992	Benzo(b)Fluoranthene	200	210
6737	Fluorene	200	U	207089	Benzo(k)Fluoranthene	79	80
5018	Phenanthrene	200	400	50328	Benzo(a)Pyrene	200	160J
20127	Anthracene	200	82J	193395	Indeno(1,2,3-cd)Pyrene	200	U
06440	Fluoranthene	200	480	53703	Dibenzo(a,h)Anthracene	200	U
29000	Pyrene	200	380	191242	Benzo(g,h,i)Perylene	200	U

TARGET COMPOUND SUMMARY: 1550

DATA REPORTING QUALIFIERS

U - Indicates the compound was analyzed for but not detected.
J - Indicates an estimated value used when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the GC/MS instrument for that specific analyte.

HAMPTON-CLARKE/VERITECH
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID : B-4-6"-2'6" SOIL
Date Rcvd/Extd: 03/31/97-04/02/97
Sample Matrix : Soil
Percent Solid : 86
Column : SUPELCO PTE-5 30m .25mm ID Column

Lab Sample No. : AA44645
Lab File ID : >FB627
Date Analyzed : 04/02/97
Dilution Factor: 1
Sample Wt/Vol : 30g

CONCENTRATION UNITS: UG/KG(PPB)

AS No.	COMPOUND	PQL	CONC	CAS NO.	COMPOUND	PQL	CONC
1203	Naphthalene	190	U	56553	Benzo(a)Anthracene	190	1200
08968	Acenaphthylene	190	U	218019	Chrysene	190	1200
3329	Acenaphthene	190	120J	205992	Benzo(b)Fluoranthene	190	1400
6737	Fluorene	190	U	207089	Benzo(k)Fluoranthene	78	560
5018	Phenanthrene	190	1700	50328	Benzo(a)Pyrene	190	1100
20127	Anthracene	190	380	193395	Indeno(1,2,3-cd)Pyrene	190	350
06440	Fluoranthene	190	2400	53703	Dibenzo(a,h)Anthracene	190	110J
29000	Pyrene	190	2200	191242	Benzo(g,h,i)Perylene	190	350

TARGET COMPOUND SUMMARY: 12840

DATA REPORTING QUALIFIERS

U - Indicates the compound was analyzed for but not detected.
J - Indicates an estimated value used when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the GC/MS instrument for that specific analyte.

HAMPTON-CLARKE/VERITECH
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID	: B-4-4'6"-6'6" SOIL	Lab Sample No.	: AA44646
Date Rcvd/Extd	: 03/31/97-04/02/97	Lab File ID	: >F8628
Sample Matrix	: Soil	Date Analyzed	: 04/02/97
Percent Solid	: 85	Dilution Factor	: 1
Column	: SUPELCO PTE-5 30m .25mm ID Column	Sample Wt/Vol	: 30g

CONCENTRATION UNITS: UG/KG(PPB)

(CA)S No.	COMPOUND	PQL	CONC	CAS NO.	COMPOUND	PQL	CONC
.203	Naphthalene	200	550	56553	Benzo(a)Anthracene	200	2400
)8968	Acenaphthylene	200	100J	218019	Chrysene	200	2600
;329	Acenaphthene	200	480	205992	Benzo(b)Fluoranthene	200	2700
,737	Fluorene	200	430	207089	Benzo(k)Fluoranthene	78	890
·018	Phenanthrene	200	6000	50328	Benzo(a)Pyrene	200	2100
:0127	Anthracene	200	890	193395	Indeno(1,2,3-cd)Pyrene	200	820
)6440	Fluoranthene	200	5200	53703	Dibenzo(a,h)Anthracene	200	270
:9000	Pyrene	200	5100	191242	Benzo(g,h,i)Perylene	200	860

TARGET COMPOUND SUMMARY: 31290

DATA REPORTING QUALIFIERS

U - Indicates the compound was analyzed for but not detected.
J - Indicates an estimated value used when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the GC/MS instrument for that specific analyte.

HAMPTON-CLARKE/VERITECH
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID : 8-4-8'6"-10'6" SOIL
Date Rcvd/Extd: 03/31/97-04/02/97
Sample Matrix : Soil
Percent Solid : 81
Column : SUPELCO PTE-5 30m .25mm ID Column

Lab Sample No. : AA44647
Lab File ID : >F8629
Date Analyzed : 04/02/97
Dilution Factor: 1
Sample Wt/Vol : 30g

CONCENTRATION UNITS: UG/KG(PPB)

CAS No.	COMPOUND	PQL	CONC	CAS NO.	COMPOUND	PQL	CONC
1203	Naphthalene	210	130J	56553	Benzo(a)Anthracene	210	870
08968	Acenaphthylene	210	68J	218019	Chrysene	210	850
3329	Acenaphthene	210	100J	205992	Benzo(b)Fluoranthene	210	1200
737	Fluorene	210	U	207089	Benzo(k)Fluoranthene	82	410
018	Phenanthrene	210	1700	50328	Benzo(a)Pyrene	210	880
20127	Anthracene	210	380	193395	Indeno(1,2,3-cd)Pyrene	210	300
06440	Fluoranthene	210	2000	53703	Dibenzo(a,h)Anthracene	210	77J
09000	Pyrene	210	2600	191242	Benzo(g,h,i)Perylene	210	340

TARGET COMPOUND SUMMARY: 11530

DATA REPORTING QUALIFIERS

U - Indicates the compound was analyzed for but not detected.
J - Indicates an estimated value used when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the GC/MS instrument for that specific analyte.

HAMPTON-CLARKE/VERITECH

VOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID : B-6-6"-2'6" SOIL
Date Rcvd/Extd: 04/01/97-N/A
Sample Matrix : Soil
Percent Solid : 80
Column : J&W DB-624 75M .53mm ID column

Lab Sample No. : AA44630
Lab File ID : >G1820
Date Analyzed : 04/03/97
Dilution Factor: 1
Sample Wt/Vol : 5.0g

CONCENTRATION UNITS: UG/KG(PPB)

CAS No.	COMPOUND	PQL	CONC	CAS NO.	COMPOUND	PQL	CONC
74873	Chloromethane	13	U	124481	Dibromochloromethane	6	U
74839	Bromomethane	13	U	79005	1,1,2-Trichloroethane	4	U
75014	Vinyl Chloride	6	U	71432	Benzene	1	U
75003	Chloroethane	13	U	10061026	Trans-1,3-Dichloropropene	6	U
75092	Methylene Chloride	19	U	110758	2-Chloroethylvinylether	13	U
67641	Acetone	25	U	75252	Bromoform	5	U
75150	Carbon Disulfide	6	U	108101	4-Methyl-2-Pentanone	31	U
75694	Trichlorofluoromethane	6	U	591786	2-Hexanone	25	U
75354	1,1-Dichloroethene	3	U	127184	Tetrachloroethene	1	U
75343	1,1-Dichloroethane	6	U	79345	1,1,2,2-Tetrachloroethane	3	U
156605	Trans-1,2-Dichloroethene	6	U	108883	Toluene	6	U
67663	Chloroform	6	U	108907	Chlorobenzene	5	U
107062	1,2-Dichloroethane	3	U	100414	Ethylbenzene	6	U
78933	2-Butanone	31	U	100425	Styrene	6	U
71556	1,1,1-Trichloroethane	6	U	108383	m&p-Xylenes	6	U
56235	Carbon Tetrachloride	3	U	95476	o-Xylene	6	U
108054	Vinyl Acetate	13	U	541731	1,3-Dichlorobenzene	6	U
75274	Bromodichloromethane	1	U	95501	1,2-Dichlorobenzene	6	U
78875	1,2-Dichloropropane	1	U	106467	1,4-Dichlorobenzene	6	U
10061015	cis-1,3-Dichloropropene	6	U	1634044	Methyl-t-butyl ether	6	U
79016	Trichloroethene	1	3	108203	Di-isopropyl-ether	6	U
				75650	t-Butyl Alcohol	130	U

TARGET COMPOUND SUMMARY: 3

DATA REPORTING QUALIFIERS

U - Indicates the compound was analyzed for but not detected.
J - Indicates an estimated value used when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the GC/MS instrument for that specific analyte.

HAMPTON-CLARKE/VERITECH

VOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID : B-7-5"-2'6" SOIL
Date Rcvd/Extd: 04/01/97-N/A
Sample Matrix : Soil
Percent Solid : 87
Column : J&W DB-624 75M .53mm ID column

Lab Sample No. : AA44581
Lab File ID : >G1821
Date Analyzed : 04/03/97
Dilution Factor: 1
Sample Wt/Vol : 5.0g

CONCENTRATION UNITS: UG/KG(PPB)

CAS No.	COMPOUND	PQL	CONC	CAS NO.	COMPOUND	PQL	CONC
74873	Chloromethane	11	U	124481	Dibromochloromethane	6	U
74839	Bromomethane	11	U	79005	1,1,2-Trichloroethane	3	U
75014	Vinyl Chloride	6	U	71432	Benzene	1	U
75003	Chloroethane	11	U	10061026	Trans-1,3-Dichloropropene	6	U
75092	Methylene Chloride	17	U	110758	2-Chloroethylvinylether	11	U
67641	Acetone	23	U	75252	Bromoform	5	U
75150	Carbon Disulfide	6	U	108101	4-Methyl-2-Pentanone	29	U
75694	Trichlorofluoromethane	6	U	591786	2-Hexanone	23	U
75354	1,1-Dichloroethene	2	U	127184	Tetrachloroethene	1	U
75343	1,1-Dichloroethane	6	U	79345	1,1,2,2-Tetrachloroethane	2	U
156605	Trans-1,2-Dichloroethene	6	U	108883	Toluene	6	U
67663	Chloroform	6	U	108907	Chlorobenzene	5	U
107062	1,2-Dichloroethane	2	U	100414	Ethylbenzene	6	U
78933	2-Butanone	29	U	100425	Styrene	6	U
71556	1,1,1-Trichloroethane	6	U	108383	m&p-Xylenes	6	U
56235	Carbon Tetrachloride	2	U	95476	o-Xylene	6	U
108054	Vinyl Acetate	11	U	541731	1,3-Dichlorobenzene	6	U
75274	Bromodichloromethane	1	U	95501	1,2-Dichlorobenzene	6	U
78875	1,2-Dichloropropane	1	U	106467	1,4-Dichlorobenzene	6	U
10061015	cis-1,3-Dichloropropene	6	U	1634044	Methyl-t-butyl ether	6	U
79016	Trichloroethene	1	U	108203	Di-isopropyl-ether	6	U
				75650	t-Butyl Alcohol	110	U

TARGET COMPOUND SUMMARY: 0

DATA REPORTING QUALIFIERS

U - Indicates the compound was analyzed for but not detected.
J - Indicates an estimated value used when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the GC/MS instrument for that specific analyte.

HAMPTON-CLARKE/VERITECH

VOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID	: B-8-5"-2'6" SOIL	Lab Sample No.	: AA44682
Date Rcvd/Extd	: 04/01/97-N/A	Lab File ID	: >G1803
Sample Matrix	: Soil	Date Analyzed	: 04/03/97
Percent Solid	: 88	Dilution Factor	: 1
Column	: J&W DB-624 75M .53mm ID column	Sample Wt/Vol	: 5.0g

CONCENTRATION UNITS: UG/KG(PPB)

CAS No.	COMPOUND	PQL	CONC	CAS NO.	COMPOUND	PQL	CONC
74873	Chloromethane	11	U	124481	Dibromochloromethane	6	U
74839	Bromomethane	11	U	79005	1,1,2-Trichloroethane	3	U
75014	Vinyl Chloride	6	U	71432	Benzene	1	U
75003	Chloroethane	11	U	10061026	Trans-1,3-Dichloropropene	6	U
75092	Methylene Chloride	17	U	110758	2-Chloroethylvinylether	11	U
67641	Acetone	23	U	75252	Bromoform	5	U
75150	Carbon Disulfide	6	U	108101	4-Methyl-2-Pentanone	28	U
75694	Trichlorofluoromethane	6	U	591786	2-Hexanone	23	U
75354	1,1-Dichloroethene	2	U	127184	Tetrachloroethene	1	6
75343	1,1-Dichloroethane	6	U	79345	1,1,2,2-Tetrachloroethane	2	U
156605	Trans-1,2-Dichloroethene	6	U	108883	Toluene	6	U
67663	Chloroform	6	U	108907	Chlorobenzene	5	U
107062	1,2-Dichloroethane	2	U	100414	Ethylbenzene	6	U
79933	2-Butanone	28	U	100425	Styrene	6	U
71556	1,1,1-Trichloroethane	6	U	108383	m&p-Xylenes	6	U
56235	Carbon Tetrachloride	2	U	95476	o-Xylene	6	U
108054	Vinyl Acetate	11	U	541731	1,3-Dichlorobenzene	6	U
75274	Bromodichloromethane	1	U	95501	1,2-Dichlorobenzene	6	U
78875	1,2-Dichloropropane	1	U	106467	1,4-Dichlorobenzene	6	U
10061015	cis-1,3-Dichloropropene	6	U	1634044	Methyl-t-butyl ether	6	U
79016	Trichloroethene	1	24	108203	Di-isopropyl-ether	6	U
				75650	t-Butyl Alcohol	110	U

TARGET COMPOUND SUMMARY: 30

DATA REPORTING QUALIFIERS

U - Indicates the compound was analyzed for but not detected.

J - Indicates an estimated value used when a compound is detected at less than the specified detection limit.

B - Indicates the analyte was found in the blank as well as in the sample.

E - Indicates the analyte concentration exceeds the calibration range of the GC/MS instrument for that specific analyte.

HAMPTON-CLARKE/VERITECH

VOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID : B-8-6"-2'6" SOIL
Date Rcvd/Extd: 04/01/97-N/A
Sample Matrix : Soil
Percent Solid : 83
Column : J&W DB-624 75M .53mm ID column

Lab Sample No. : AA44682
Lab File ID : >G1822
Date Analyzed : 04/03/97
Dilution Factor: 1
Sample Wt/Vol : 5.0g

CONCENTRATION UNITS: UG/KG(PPB)

CAS No.	COMPOUND	PQL	CONC	CAS NO.	COMPOUND	PQL	CONC
74873	Chloromethane	11	U	124481	Dibromochloromethane	6	U
74839	Bromomethane	11	U	79005	1,1,2-Trichloroethane	3	U
75014	Vinyl Chloride	6	U	71432	Benzene	1	U
75003	Chloroethane	11	U	10061026	Trans-1,3-Dichloropropene	6	U
75092	Methylene Chloride	17	U	110758	2-Chloroethylvinylether	11	U
67641	Acetone	23	U	75252	Bromoform	5	U
75150	Carbon Disulfide	6	U	108101	4-Methyl-2-Pentanone	28	U
75694	Trichlorofluoromethane	6	U	591786	2-Hexanone	23	U
75354	1,1-Dichloroethene	2	U	127184	Tetrachloroethene	1	3
75343	1,1-Dichloroethane	6	U	79345	1,1,2,2-Tetrachloroethane	2	U
156605	Trans-1,2-Dichloroethene	6	U	108883	Toluene	6	U
67663	Chloroform	6	U	108907	Chlorobenzene	5	U
107062	1,2-Dichloroethane	2	U	100414	Ethylbenzene	6	U
78933	2-Butanone	28	U	100425	Styrene	6	U
71556	1,1,1-Trichloroethane	6	U	108383	m&p-Xylenes	6	U
56235	Carbon Tetrachloride	2	U	95476	o-Xylene	6	U
108054	Vinyl Acetate	11	U	541731	1,3-Dichlorobenzene	6	U
75274	Bromodichloromethane	1	U	95501	1,2-Dichlorobenzene	6	U
78875	1,2-Dichloropropane	1	U	106467	1,4-Dichlorobenzene	6	U
10061015	cis-1,3-Dichloropropene	6	U	1634044	Methyl-t-butyl ether	6	U
79016	Trichloroethene	1	14	108203	Di-isopropyl-ether	6	U
				75650	t-Butyl Alcohol	110	U

TARGET COMPOUND SUMMARY: 17

DATA REPORTING QUALIFIERS

U - Indicates the compound was analyzed for but not detected.
J - Indicates an estimated value used when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the GC/MS instrument for that specific analyte.

HAMPTON-CLARKE/VERITECH

VOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID	: B-9-4'-6' SOIL	Lab Sample No.	: AA44583
Date Rcvd/Extd	: 04/01/97-N/A	Lab File ID	: >G1804
Sample Matrix	: Soil	Date Analyzed	: 04/03/97
Percent Solid	: 84	Dilution Factor	: 1
Column	: J&W DB-624 75M .53mm ID column	Sample Wt/Vol	: 5.0g

CONCENTRATION UNITS: UG/KG(PPB)

CAS No.	COMPOUND	PQL	CONC	CAS NO.	COMPOUND	PQL	CONC
74873	Chloromethane	12	U	124481	Dibromochloromethane	6	U
74839	Bromomethane	12	U	79005	1,1,2-Trichloroethane	4	U
75014	Vinyl Chloride	6	U	71432	Benzene	1	U
75003	Chloroethane	12	U	10061026	Trans-1,3-Dichloropropene	6	U
75092	Methylene Chloride	18	U	110759	2-Chloroethylvinylether	12	U
67641	Acetone	24	U	75252	Bromoform	5	U
75150	Carbon Disulfide	6	U	108101	4-Methyl-2-Pentanone	30	U
75694	Trichlorofluoromethane	6	U	591786	2-Hexanone	24	U
75354	1,1-Dichloroethene	2	U	127184	Tetrachloroethene	1	U
75343	1,1-Dichloroethane	6	U	79345	1,1,2,2-Tetrachloroethane	2	U
156605	Trans-1,2-Dichloroethene	6	U	108883	Toluene	6	U
67663	Chloroform	6	U	108907	Chlorobenzene	5	U
107062	1,2-Dichloroethane	2	U	100414	Ethylbenzene	6	U
78933	2-Butanone	30	U	100425	Styrene	6	U
71556	1,1,1-Trichloroethane	6	U	108383	m&p-Xylenes	6	U
56235	Carbon Tetrachloride	2	U	95476	o-Xylene	6	U
108054	Vinyl Acetate	12	U	541731	1,3-Dichlorobenzene	6	U
75274	Bromodichloromethane	1	U	95501	1,2-Dichlorobenzene	6	U
78875	1,2-Dichloropropane	1	U	106467	1,4-Dichlorobenzene	6	U
10061015	cis-1,3-Dichloropropene	6	U	1634044	Methyl-t-butyl ether	6	U
79016	Trichloroethene	1	3	108203	Di-isopropyl-ether	6	U
				75650	t-Butyl Alcohol	120	U

TARGET COMPOUND SUMMARY: 3

DATA REPORTING QUALIFIERS

U - Indicates the compound was analyzed for but not detected.

J - Indicates an estimated value used when a compound is detected at less than the specified detection limit.

B - Indicates the analyte was found in the blank as well as in the sample.

E - Indicates the analyte concentration exceeds the calibration range of the GC/MS instrument for that specific analyte.

HAMPTON-CLARKE/VERITECH
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID : B-6-6"-2'6" SOIL
Date Rcvd/Extd: 04/01/97-04/02/97
Sample Matrix : Soil
Percent Solid : 80
Column : SUPELCO PTE-5 30m .25mm ID Column

Lab Sample No. : AA44680
Lab File ID : >F8637
Date Analyzed : 04/03/97
Dilution Factor: 1
Sample Wt/Vol : 30g

CONCENTRATION UNITS: UG/KG(PPB)

AS No.	COMPOUND	PQL	CONC	CAS NO.	COMPOUND	PQL	CONC
.203	Naphthalene	210	U	56553	Benzo(a)Anthracene	210	U
08968	Acenaphthylene	210	U	218019	Chrysene	210	U
3329	Acenaphthene	210	U	205992	Benzo(b)Fluoranthene	210	U
.737	Fluorene	210	U	207089	Benzo(k)Fluoranthene	83	U
.018	Phenanthrene	210	U	50328	Benzo(a)Pyrene	210	U
20127	Anthracene	210	U	193395	Indeno(1,2,3-cd)Pyrene	210	U
6440	Fluoranthene	210	56J	53703	Dibenzo(a,h)Anthracene	210	U
9000	Pyrene	210	52J	191242	Benzo(g,h,i)Perylene	210	U

TARGET COMPOUND SUMMARY: 0

DATA REPORTING QUALIFIERS

U - Indicates the compound was analyzed for but not detected.
J - Indicates an estimated value used when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the GC/MS instrument for that specific analyte.

HAMPTON-CLARKE/VERITECH
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID : B-7-6"-2'6" SOIL
Date Rcvd/Extd: 04/01/97-04/02/97
Sample Matrix : Soil
Percent Solid : 87
Column : SUPELCO PTE-5 30m .25mm ID Column

Lab Sample No. : AA44681
Lab File ID : >F8638
Date Analyzed : 04/03/97
Dilution Factor: 1
Sample Wt/Vol : 30g

CONCENTRATION UNITS: UG/KG(PPB)

S No.	COMPOUND	PQL	CONC	CAS NO.	COMPOUND	PQL	CONC
.203	Naphthalene	190	U	56553	Benzo(a)Anthracene	190	U
3968	Acenaphthylene	190	U	218019	Chrysene	190	U
329	Acenaphthene	190	U	205992	Benzo(b)Fluoranthene	190	U
737	Fluorene	190	U	207089	Benzo(k)Fluoranthene	77	U
918	Phenanthrene	190	U	50328	Benzo(a)Pyrene	190	U
0127	Anthracene	190	U	193395	Indeno(1,2,3-cd)Pyrene	190	U
6440	Fluoranthene	190	U	53703	Dibenzo(a,h)Anthracene	190	U
9000	Pyrene	190	U	191242	Benzo(g,h,i)Perylene	190	U

TARGET COMPOUND SUMMARY: 0

DATA REPORTING QUALIFIERS

U - Indicates the compound was analyzed for but not detected.
J - Indicates an estimated value used when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the GC/MS instrument for that specific analyte.

HAMPTON-CLARKE/VERITECH
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID : 8-8-6"-2'6" SOIL
Date Rcvd/Extd: 04/01/97-04/02/97
Sample Matrix : Soil
Percent Solid : 88
Column : SUPELCO PTE-5 30m .25mm ID Column

Lab Sample No. : AA44682
Lab File ID : >F8639
Date Analyzed : 04/03/97
Dilution Factor: 1
Sample Wt/Vol : 30g

CONCENTRATION UNITS: UG/KG(PPB)

CAS No.	COMPOUND	PQL	CONC	CAS NO.	COMPOUND	PQL	CONC
.203	Naphthalene	190	U	56553	Benzo(a)Anthracene	190	130J
)8968	Acenaphthylene	190	U	218019	Chrysene	190	130J
5329	Acenaphthene	190	U	205992	Benzo(b)Fluoranthene	190	140J
5737	Fluorene	190	U	207089	Benzo(k)Fluoranthene	76	51J
5018	Phenanthrene	190	110J	50328	Benzo(a)Pyrene	190	U
20127	Anthracene	190	U	193395	Indeno(1,2,3-cd)Pyrene	190	U
)6440	Fluoranthene	190	210	53703	Dibenzo(a,h)Anthracene	190	U
29000	Pyrene	190	200	191242	Benzo(g,h,i)Perylene	190	U

TARGET COMPOUND SUMMARY: 410

DATA REPORTING QUALIFIERS

U - Indicates the compound was analyzed for but not detected.
J - Indicates an estimated value used when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the GC/MS instrument for that specific analyte.

HAMPTON-CLARKE/VERITECH
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID : B-9-4-6' SOIL
Date Rcvd/Extd: 04/01/97-04/02/97
Sample Matrix : Soil
Percent Solid : 84
Column : SUPELCO PTE-5 30m .25mm ID Column

Lab Sample No. : AA44683
Lab File ID :)F8640
Date Analyzed : 04/03/97
Dilution Factor: 1
Sample Wt/Vol : 30g

CONCENTRATION UNITS: UG/KG(PPB)

CAS No.	COMPOUND	PQL	CONC	CAS NO.	COMPOUND	PQL	CONC
)1203	Naphthalene	200	U	56553	Benzo(a)Anthracene	200	U
:08968	Acenaphthylene	200	U	218019	Chrysene	200	U
13329	Acenaphthene	200	U	205992	Benzo(b)Fluoranthene	200	U
16737	Fluorene	200	U	207089	Benzo(k)Fluoranthene	79	U
15018	Phenanthrene	200	U	50328	Benzo(a)Pyrene	200	U
.20127	Anthracene	200	U	193395	Indeno(1,2,3-cd)Pyrene	200	U
206440	Fluoranthene	200	U	53703	Dibenzo(a,h)Anthracene	200	U
129000	Pyrene	200	U	191242	Benzo(g,h,i)Perylene	200	U

TARGET COMPOUND SUMMARY: 0

DATA REPORTING QUALIFIERS

U - Indicates the compound was analyzed for but not detected.
J - Indicates an estimated value used when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the GC/MS instrument for that specific analyte.

Veritech, 175 Route 46 West, Fairfield, NJ 07004
A Division of HAMPTON-CLARKE, Inc. NJDEPE #13622

CHAIN OF CUSTODY RECORD

PHONE (201) 244-9770
FAX (201) 244-9787

CUSTOMER INFORMATION

CUSTOMER: FLUSYSTEMS STRATEGIES
ADDRESS: 6 WORRALL AV. POUGHKEEPSIE, NY
TELEPHONE: 914 452-1655
PROJECT: PB96142.31
PROJECT MANAGER: BRAD FISHER
PROJECT LOCATION:
STATE:
PO NUMBER:

REPORT INFORMATION

SEND REPORT TO:
BRAD FISHER
FLUSYSTEMS STRATEGIES, INC.
6 WORRALL AV
POUGHKEEPSIE, NY 12603
SEND INVOICE TO: SAME

PROJECT INFORMATION

TURNAROUND (CONFIRM RUSH TAT'S WITH LAB)
STANDARD _____ RUSH X by Fri
DELIVERABLES (PLEASE CIRCLE):
(STANDARD) ISRA BUST
WASTE REGULATORY
OTHER (Specify) _____

ANALYTICAL REQUESTS

LAB SAMPLE NUMBER	SAMPLE IDENTIFICATION	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE: COMPOSITE (C)	SAMPLE TYPE: GRAB (G)	SAMPLE MATRIX	NO. OF BOTTLES: H2SO4	HNO3	HCL	NaOH	ZnAc + NaOH	Ascorbic	NONE	OTHER	ANALYSIS
AA44680	B-6 (6"-2'6")	4/1/97	1^10	X		S									8240, PAHs/PCBs
44681	B-7 (6"-2'6")	4/1/97	1^20	X		S									8240, PAHs/PCBs
44682	B-8 (6"-2'6")	4/1/97	1^30	X		S									8240, PAHs/PCBs
44683	B-9 (4-6')	4/1/97	2^30	X		S									8240, PAHs/PCBs

SAMPLER CERTIFIES THAT EACH SAMPLE RECEIVED PROPER FIELD PRESERVATION (IF REQUIRED) (INITIALS) _____

SAMPLE HAZARDS: ☐ FLAMMABLE ☐ SKIN IRRITANT ☐ NON-HAZARD ☐ UNKNOWN ☐ NOXIOUS FUMES

SPECIAL INSTRUCTIONS:

TEMPERATURE UPON RECEIPT: 9.6°C

Relinquished by: / Agent of:	DATE/TIME 4/1/97 1330	Received by: / Agent of:	DATE/TIME 4/1/97 1725
Relinquished by: / Agent of:	DATE/TIME 4/1/97 1855	Received by: / Agent of:	DATE/TIME 4/1/97 1855

CONDITION UPON RECEIPT FORM

Veritech

Date Received: 4/1/97 Filed By: Stan Silverman

Client: Ecosystems Strategies Project/Account: PB96146.30 11

INITIAL CONDITIONS

YES	NO		
✓		[1]	Is there a corresponding Chain of Custody included with the samples?
✓		[2]	Are the samples in a container such as a cooler or ice chest?
	✓	[3]	Are the custody seals intact? IF NO, please circle one of the following: (missing) broken
9.6 °C		[4]	Please specify the temperature inside the container.

SAMPLE INFORMATION

YES	NO		
	✓	[5]	Are the samples properly refrigerated (where required)?
✓		[6]	Are the samples within holding times for the parameters listed on the COC? If NO, list parameters and associated samples:
✓		[7]	Are all of the sample bottles intact? If NO, specify sample numbers below: broken: leaking:
✓		[8]	Are all of the sample labels or numbers legible? If NO, specify:
✓		[9]	Do the contents of the container match the COC? If NO, specify:
✓		[10]	Is there enough sample sent for the analyses listed on the COC? If NO, specify:
NA		[11]	Are the samples preserved correctly (see Preservation Form for actual pH readings)?

OTHER

YES	NO		
		[12]	Specify:

CORRECTIVE ACTIONS

NO.	ACTION

ATTACHMENT A-2

LABORATORY DATA PACKAGES FROM PREVIOUS TESTING

(GROUNDWATER TESTING)

Form1

ORGANICS VOLATILE REPORT

Sample Number: AA47222 *Matrix:* Water

Client Id: MW-1 WATER *Initial Volume:* 5ml

Data File: FH1984 *Final Volume:* NA

Data Analyzed: 3 Jun 1997 2:09 *Dilution Factor:* 1

Date Received/Extracted: 06/02/97-NA *Percent Solids:* 0

Column: Supelco 105 m vocol col,.5 mm id, 3.0 um film

CAS #	*Compound*	*PQL/MDL*	*Concentration* ug/L(PPB)
71556	1,1,1-Trichloroethane	0.32	22
79345	1,1,2,2-Tetrachloroethane	0.64	U
79005	1,1,2-Trichloroethane	0.35	U
75343	1,1-Dichloroethane	0.42	U
75354	1,1-Dichloroethene	0.38	U
95501	1,2-Dichlorobenzene	0.51	U
107062	1,2-Dichloroethane	0.31	U
78875	1,2-Dichloropropane	0.31	U
541731	1,3-Dichlorobenzene	0.46	U
106467	1,4-Dichlorobenzene	0.43	U
78933	2-Butanone	25	U
110758	2-Chloroethylvinylether	0.41	U
591786	2-Hexanone	20	U
108101	4-Methyl-2-Pentanone	20	U
67641	Acetone	20	U
71432	Benzene	0.38	U
75274	Bromodichloromethane	0.39	U
75252	Bromoform	0.45	U
74839	Bromomethane	0.29	U
75150	Carbon Disulfide	5.0	U
56235	Carbon Tetrachloride	0.41	U
108907	Chlorobenzene	0.33	U
75003	Chloroethane	0.57	U
67663	Chloroform	0.51	3.3
74873	Chloromethane	2.4	U
108203	Di-isopropyl-ether	1.0	U
124481	Dibromochloromethane	0.39	U
100414	Ethylbenzene	0.40	U
1634044	Methyl-t-butyl ether	1.0	U
75092	Methylene Chloride	1.3	U
100425	Styrene	0.25	U
127184	Tetrachloroethene	0.48	81
108883	Toluene	0.45	28
156605	Trans-1,2-Dichloroethene	0.42	U
10061026	Trans-1,3-Dichloropropene	0.28	U
79016	Trichloroethene	0.48	100
75694	Trichlorofluoromethane	0.54	U
108054	Vinyl Acetate	10	U
75014	Vinyl Chloride	0.62	U
10061015	cis-1,3-Dichloropropene	0.28	U
108383	m&p-Xylenes	0.99	U
95476	o-Xylene	0.34	U
75650	t-Butyl Alcohol	10	U

Total Target Concentration 230

U - Indicates the compound was analyzed but not detected.
J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AA47222 *Matrix:* Water

Client Id: MW-1 WATER *Initial Volume:* 1000ml

Data File: FF9431 *Final Volume:* 1ml

Data Analyzed: 3 Jun 1997 12:31 *Dilution Factor:* 1

Date Received/Extracted: 06/02/97-06/03/97 *Percent Solids:* 0

Column: J&W-Scientific db-5 30m,.25 mm id, .25um film

CAS #	*Compound*	*PQL/MDL*	*Concentration* ug/L(PPB)
83329	Acenaphthene	1.6	U
208968	Acenaphthylene	2.5	U
120127	Anthracene	2.5	U
56553	Benzo[a]Anthracene	2.2	U
50328	Benzo[a]Pyrene	2.2	U
205992	Benzo[b]Fluoranthene	3.0	U
191242	Benzo[g,h,i]Perylene	1.6	U
207089	Benzo[k]Fluoranthene	3.1	U
218019	Chrysene	2.5	U
53703	DiBenzo[a,h]Anthracene	2.0	U
206440	Fluoranthene	2.4	U
86737	Fluorene	2.3	U
193395	Indeno[1,2,3-cd]Pyrene	2.7	U
91203	Naphthalene	2.6	U
85018	Phenanthrene	2.5	U
129000	Pyrene	2.4	U

Total Target Concentration 0

U - Indicates the compound was analyzed but not detected.
J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.

06021928

Veritech, 175 Route 46 West, Fairfield, NJ 07004
A Division of HAMPTON-CLARKE, Inc. NJDEPE #14622

CHAIN OF CUSTODY RECORD

PHONE (201) 244-9770
FAX (201) 244-9787

CUSTOMER INFORMATION

CUSTOMER: ECOSYSTEMS STRATEGIES
ADDRESS: 60 LONDALL AV
TELEPHONE: 914 452-1655
PROJECT: PB96146.40
PROJECT MANAGER: BRAD FEINER
PROJECT LOCATION:
STATE:
PO NUMBER:

REPORT INFORMATION

SEND REPORT TO:
ECOSYSTEMS STRATEGIES, INC
60 LONDALL AV
POUGHKEEPSIE NY 12603

SEND INVOICE TO: SAME

PROJECT INFORMATION

TURNAROUND (CONFIRM RUSH TAT'S WITH LAB)
STANDARD _____ (RUSH) 1 DAY
DELIVERABLES (PLEASE CIRCLE):
STANDARD ISRA BUST
WASTE REGULATORY
OTHER (Specify) _____

ANALYTICAL REQUESTS

LAB SAMPLE NUMBER	SAMPLE IDENTIFICATION	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE: COMPOSITE (C)	SAMPLE TYPE: GRAB (G)	SAMPLE MATRIX	NO. OF BOTTLES: H_2SO_4	HNO_3	HCL	NaOH	ZnAc + NaOH	Ascorbic	NONE	OTHER	ANALYSIS
AA47222	MW-1	6/1/97	500			W			X						8240
↓	MW-1	6/1/97	500			W									8270 (PAHs)

SAMPLER CERTIFIES THAT EACH SAMPLE RECEIVED PROPER FIELD PRESERVATION (IF REQUIRED) (INITIALS) BF

SAMPLE HAZARDS: ☐ FLAMMABLE ☐ SKIN IRRITANT ☐ NON-HAZARD ☐ UNKNOWN ☐ NOXIOUS FUMES

SPECIAL INSTRUCTIONS:

TEMPERATURE UPON RECEIPT: 0.4°C

Relinquished by: / Agent of: ECOSYSTEMS	DATE/TIME 6/1/97 1515	Received by: / Agent of: Xpress Del. Svc.	DATE/TIME 6/1/97 1710
Relinquished by: / Agent of: Xpress Del. Svc.	DATE/TIME 6/1/97 1855	Received by: / Agent of: Veritech	DATE/TIME 6/1/97 1855

Form1

ORGANICS VOLATILE REPORT

Sample Number: AA47353 — *Matrix:* Water

Client Id: MW-3 — *Initial Volume:* 5ml

Data File: FH2053 — *Final Volume:* NA

Data Analyzed: 5 Jun 1997 23:22 — *Dilution Factor:* 1

Date Received/Extracted: 06/05/97-NA — *Percent Solids:* 0

Column: Supelco 105 m vocol col,.5 mm id, 3.0 um film

CAS #	*Compound*	*PQL/MDL*	*Concentration* ug/L (PPB)
71556	1,1,1-Trichloroethane	0.32	21
79345	1,1,2,2-Tetrachloroethane	0.64	U
79005	1,1,2-Trichloroethane	0.35	U
75343	1,1-Dichloroethane	0.42	U
75354	1,1-Dichloroethene	0.38	U
95501	1,2-Dichlorobenzene	0.51	U
107062	1,2-Dichloroethane	0.31	U
78875	1,2-Dichloropropane	0.31	U
541731	1,3-Dichlorobenzene	0.46	U
106467	1,4-Dichlorobenzene	0.43	U
78933	2-Butanone	25	U
110758	2-Chloroethylvinylether	0.41	U
591786	2-Hexanone	20	U
108101	4-Methyl-2-Pentanone	20	U
67641	Acetone	20	U
71432	Benzene	0.38	U
75274	Bromodichloromethane	0.39	U
75252	Bromoform	0.45	U
74839	Bromomethane	0.29	U
75150	Carbon Disulfide	5.0	U
56235	Carbon Tetrachloride	0.41	U
108907	Chlorobenzene	0.33	U
75003	Chloroethane	0.57	U
67663	Chloroform	0.51	2.4
74873	Chloromethane	2.4	U
108203	Di-isopropyl-ether	1.0	U
124481	Dibromochloromethane	0.39	U
100414	Ethylbenzene	0.40	U
1634044	Methyl-t-butyl ether	1.0	8.1
75092	Methylene Chloride	1.3	U
100425	Styrene	0.25	U
127184	Tetrachloroethene	0.48	86
108883	Toluene	0.45	U
156605	Trans-1,2-Dichloroethene	0.42	U
10061026	Trans-1,3-Dichloropropene	0.28	U
79016	Trichloroethene	0.48	92
75694	Trichlorofluoromethane	0.54	U
108054	Vinyl Acetate	10	U
75014	Vinyl Chloride	0.62	U
10061015	cis-1,3-Dichloropropene	0.28	U
108383	m&p-Xylenes	0.99	U
95476	o-Xylene	0.34	U
75650	t-Butyl Alcohol	10	U

Total Target Concentration 210

U - Indicates the compound was analyzed but not detected.
J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.

Form1e/1f

ORGANICS VOLATILE REPORT

Tentatively Identified Compounds

Sample Number: AA47353 | *Matrix:* Water

Client Id: MW-3 | *Initial Volume:* 5ml

Data File: FH2053 | *Final Volume:* NA

Data Analyzed: 5 Jun 1997 23:22 | *Dilution Factor:* 1

Date Received/Extracted: 06/05/97-NA | *Percent Solids:* 0

Hit#	*Cas Number*	*Compound*	*RT*	*Concentration* ug/L (PPB)
1	000156-59-2	Ethene, 1,2-dichloro-, (Z)-	9.580	5.2 *J*

Total Tentatively Identified Concentration 5.2

A - Indicates an aldol condensate.
J - Indicates an estimated value.
B - Indicates the analyte was found in the blank as well as in the sample.

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AA47353 — *Matrix:* Water

Client Id: MW-3 — *Initial Volume:* 500ml

Data File: FF9513 — *Final Volume:* 1ml

Data Analyzed: 6 Jun 1997 00:15 — *Dilution Factor:* 1

Date Received/Extracted: 06/05/97-06/05/97 — *Percent Solids:* 0

Column: J&W-Scientific db-5 30m,.25 mm id, .25um film

CAS #	*Compound*	*PQL/MDL*	*Concentration* ug/L (PPB)
120821	1,2,4-Trichlorobenzene	5.8	U
95501	1,2-Dichlorobenzene	5.2	U
541731	1,3-Dichlorobenzene	6.6	U
106467	1,4-Dichlorobenzene	7.4	U
121142	2,4-Dinitrotoluene	4.0	U
606202	2,6-Dinitrotoluene	5.6	U
91587	2-Chloronaphthalene	3.8	U
91576	2-Methylnaphthalene	4.2	U
88744	2-Nitroaniline	5.0	U
91941	3,3'-Dichlorobenzidine	16	U
99092	3-Nitroaniline	6.4	U
101553	4-Bromophenyl-phenylether	6.4	U
106478	4-Chloroaniline	8.8	U
7005723	4-Chlorophenyl-phenylether	4.8	U
100016	4-Nitroaniline	6.8	U
83329	Acenaphthene	3.2	U
208968	Acenaphthylene	5.0	U
120127	Anthracene	5.0	U
92875	Benzidine	50	U
56553	Benzo[a]Anthracene	4.4	U
50328	Benzo[a]Pyrene	4.4	U
205992	Benzo[b]Fluoranthene	6.0	U
191242	Benzo[g,h,i]Perylene	3.2	U
207089	Benzo[k]Fluoranthene	6.2	U
65850	Benzoic Acid	20	U
100516	Benzyl Alcohol	3.8	U
111911	Bis(2-Chloroethoxy)Methane	4.0	U
111444	Bis(2-Chloroethyl)Ether	2.0	U
39638329	Bis(2-Chloroisopropyl)ether	3.2	U
117817	Bis(2-Ethylhexyl)Phthalate	4.2	U
85687	Butylbenzylphthalate	5.6	U
218019	Chrysene	5.0	U
84742	Di-n-Butylphthalate	5.0	U
117840	Di-n-octylphthalate	4.4	U
53703	DiBenzo[a,h]Anthracene	4.0	U
132649	Dibenzofuran	5.2	U
84662	Diethylphthalate	3.0	U
131113	Dimethylphthalate	4.4	U
206440	Fluoranthene	4.8	U
86737	Fluorene	4.6	U
118741	Hexachlorobenzene	6.6	U
87683	Hexachlorobutadiene	6.8	U
77474	Hexachlorocyclopentadiene	6.0	U
67721	Hexachloroethane	6.2	U
193395	Indeno[1,2,3-cd]Pyrene	5.4	U
78591	Isophorone	4.4	U
924163	N-Nitroso-Di-n-propylamine	4.0	U
62759	N-Nitrosodimethylamine	6.6	U
86306	N-Nitrosodiphenylamine	7.0	U
91203	Naphthalene	5.2	U
98953	Nitrobenzene	4.2	U
85018	Phenanthrene	5.0	U
129000	Pyrene	4.8	U
110861	Pyridine	20	U

Total Target Concentration 0

U - Indicates the compound was analyzed but not detected.
J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.

Form1e/1f
ORGANICS SEMIVOLATILE REPORT
Tentatively Identified Compounds

Sample Number: AA47353
Client Id: MW-3
Data File: FF9513
Data Analyzed: 6 Jun 1997 00:15
Date Received/Extracted: 06/05/97-06/05/97

Matrix: Water
Initial Volume: 500ml
Final Volume: 1ml
Dilution Factor: 1
Percent Solids: 0

Hit#	*Cas Number*	*Compound*	*RT*	*Concentration* ug/L (PPB)
1		No Unknown Compounds Detected		*J*

Total Tentatively Identified Concentration 0

A - Indicates an aldol condensate.
J - Indicates an estimated value.
B - Indicates the analyte was found in the blank as well as in the sample.

Form1

ORGANICS VOLATILE REPORT

Sample Number: AA47352 — *Matrix:* Water

Client Id: MW-4 — *Initial Volume:* 5ml

Data File: FH2052 — *Final Volume:* NA

Data Analyzed: 5 Jun 1997 22:46 — *Dilution Factor:* 1

Date Received/Extracted: 06/05/97-NA — *Percent Solids:* 0

Column: Supelco 105 m vocol col,.5 mm id, 3.0 um film

CAS #	*Compound*	*PQL/MDL*	*Concentration* ug/L (PPB)
71556	1,1,1-Trichloroethane	0.32	0.71
79345	1,1,2,2-Tetrachloroethane	0.64	U
79005	1,1,2-Trichloroethane	0.35	U
75343	1,1-Dichloroethane	0.42	U
75354	1,1-Dichloroethene	0.38	U
95501	1,2-Dichlorobenzene	0.51	U
107062	1,2-Dichloroethane	0.31	U
78875	1,2-Dichloropropane	0.31	U
541731	1,3-Dichlorobenzene	0.46	U
106467	1,4-Dichlorobenzene	0.43	U
78933	2-Butanone	25	U
110758	2-Chloroethylvinylether	0.41	U
591786	2-Hexanone	20	U
108101	4-Methyl-2-Pentanone	20	U
67641	Acetone	20	U
71432	Benzene	0.38	U
75274	Bromodichloromethane	0.39	U
75252	Bromoform	0.45	U
74839	Bromomethane	0.29	U
75150	Carbon Disulfide	5.0	U
56235	Carbon Tetrachloride	0.41	U
108907	Chlorobenzene	0.33	U
75003	Chloroethane	0.57	U
67663	Chloroform	0.51	1.0
74873	Chloromethane	2.4	U
108203	Di-isopropyl-ether	1.0	U
124481	Dibromochloromethane	0.39	U
100414	Ethylbenzene	0.40	U
1634044	Methyl-t-butyl ether	1.0	U
75092	Methylene Chloride	1.3	U
100425	Styrene	0.25	U
127184	Tetrachloroethene	0.48	4.5
108883	Toluene	0.45	1.2
156605	Trans-1,2-Dichloroethene	0.42	U
10061026	Trans-1,3-Dichloropropene	0.28	U
79016	Trichloroethene	0.48	19
75694	Trichlorofluoromethane	0.54	U
108054	Vinyl Acetate	10	U
75014	Vinyl Chloride	0.62	U
10061015	cis-1,3-Dichloropropene	0.28	U
108383	m&p-Xylenes	0.99	U
95476	o-Xylene	0.34	U
75650	t-Butyl Alcohol	10	U

Total Target Concentration 26

U - Indicates the compound was analyzed but not detected.
J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.

Form1e/1f

ORGANICS VOLATILE REPORT

Tentatively Identified Compounds

Sample Number: AA47352 | *Matrix:* Water

Client Id: MW-4 | *Initial Volume:* 5ml

Data File: FH2052 | *Final Volume:* NA

Data Analyzed: 5 Jun 1997 22:46 | *Dilution Factor:* 1

Date Received/Extracted: 06/05/97-NA | *Percent Solids:* 0

Hit#	*Cas Number*	*Compound*	*RT*	*Concentration* ug/L (PPB)
1		No Unknown Compounds Detected		J

Total Tentatively Identified Concentration 0

A - Indicates an aldol condensate.
J - Indicates an estimated value.
B - Indicates the analyte was found in the blank as well as in the sample.

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AA47352 — *Matrix:* Water

Client Id: MW-4 — *Initial Volume:* 500ml

Data File: FF9512 — *Final Volume:* 1ml

Data Analyzed: 5 Jun 1997 23:49 — *Dilution Factor:* 1

Date Received/Extracted: 06/05/97-06/05/97 — *Percent Solids:* 0

Column: J&W-Scientific db-5 30m,.25 mm id, .25um film

CAS #	*Compound*	*PQL/MDL*	*Concentration* ug/L (PPB)
120821	1,2,4-Trichlorobenzene	5.8	U
95501	1,2-Dichlorobenzene	5.2	U
541731	1,3-Dichlorobenzene	6.6	U
106467	1,4-Dichlorobenzene	7.4	U
121142	2,4-Dinitrotoluene	4.0	U
606202	2,6-Dinitrotoluene	5.6	U
91587	2-Chloronaphthalene	3.8	U
91576	2-Methylnaphthalene	4.2	U
88744	2-Nitroaniline	5.0	U
91941	3,3'-Dichlorobenzidine	16	U
99092	3-Nitroaniline	6.4	U
101553	4-Bromophenyl-phenylether	6.4	U
106478	4-Chloroaniline	8.8	U
7005723	4-Chlorophenyl-phenylether	4.8	U
100016	4-Nitroaniline	6.8	U
83329	Acenaphthene	3.2	U
208968	Acenaphthylene	5.0	U
120127	Anthracene	5.0	U
92875	Benzidine	50	U
56553	Benzo[a]Anthracene	4.4	U
50328	Benzo[a]Pyrene	4.4	U
205992	Benzo[b]Fluoranthene	6.0	U
191242	Benzo[g,h,i]Perylene	3.2	U
207089	Benzo[k]Fluoranthene	6.2	U
65850	Benzoic Acid	20	U
100516	Benzyl Alcohol	3.8	U
111911	Bis(2-Chloroethoxy)Methane	4.0	U
111444	Bis(2-Chloroethyl)Ether	2.0	U
39638329	Bis(2-Chloroisopropyl)ether	3.2	U
117817	Bis(2-Ethylhexyl)Phthalate	4.2	U
85687	Butylbenzylphthalate	5.6	U
218019	Chrysene	5.0	U
84742	Di-n-Butylphthalate	5.0	U
117840	Di-n-octylphthalate	4.4	U
53703	DiBenzo[a,h]Anthracene	4.0	U
132649	Dibenzofuran	5.2	U
84662	Diethylphthalate	3.0	U
131113	Dimethylphthalate	4.4	U
206440	Fluoranthene	4.8	U
86737	Fluorene	4.6	U
118741	Hexachlorobenzene	6.6	U
87683	Hexachlorobutadiene	6.8	U
77474	Hexachlorocyclopentadiene	6.0	U
67721	Hexachloroethane	6.2	U
193395	Indeno[1,2,3-cd]Pyrene	5.4	U
78591	Isophorone	4.4	U
924163	N-Nitroso-Di-n-propylamine	4.0	U
62759	N-Nitrosodimethylamine	6.6	U
86306	N-Nitrosodiphenylamine	7.0	U
91203	Naphthalene	5.2	U
98953	Nitrobenzene	4.2	U
85018	Phenanthrene	5.0	U
129000	Pyrene	4.8	U
110861	Pyridine	20	U

Total Target Concentration 0

U - Indicates the compound was analyzed but not detected.
J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.

Form1e/1f

ORGANICS SEMIVOLATILE REPORT

Tentatively Identified Compounds

Sample Number: AA47352 | *Matrix:* Water

Client Id: MW-4 | *Initial Volume:* 500ml

Data File: FF9512 | *Final Volume:* 1ml

Data Analyzed: 5 Jun 1997 23:49 | *Dilution Factor:* 1

Date Received/Extracted: 06/05/97-06/05/97 | *Percent Solids:* 0

Hit#	*Cas Number*	*Compound*	*RT*	*Concentration* ug/L (PPB)
1	000000-00-0	1,1-Dioctyloxyoctane	3.570	22 *J*

Total Tentatively Identified Concentration 22

A - Indicates an aldol condensate.
J - Indicates an estimated value.
B - Indicates the analyte was found in the blank as well as in the sample.

Veritech, 175 Route 46 West, Fairfield, NJ 07004
A Division of HAMPTON-CLARKE, Inc NJDEPE #14622

CHAIN OF CUSTODY RECORD

PHONE (201) 244-9770
FAX (201) 244-9787

CUSTOMER INFORMATION

CUSTOMER: Ecosystems strategies
ADDRESS: 60 Worrall Ave.
TELEPHONE: (914) 452-1658
PROJECT: PB96146.40
PROJECT MANAGER: Jay Kaplan
PROJECT LOCATION: PB96146.40
STATE: NY
PO NUMBER:

REPORT INFORMATION

SEND REPORT TO:
Paul Ciminello
60 Worrall Ave
Poughkeepsie NY 12603
fax (914) 485-7083

SEND INVOICE TO:

PROJECT INFORMATION

TURNAROUND (CONFIRM RUSH TAT'S WITH LAB)
STANDARD ~~RUSH~~ 24 hr.
DELIVERABLES (PLEASE CIRCLE):
STANDARD ISRA BUST
WASTE REGULATORY
OTHER (Specify)

ANALYTICAL REQUESTS

LAB SAMPLE NUMBER	SAMPLE IDENTIFICATION	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE: COMPOSITE (C)	SAMPLE TYPE: GRAB (G)	SAMPLE MATRIX	NO. OF BOTTLES: H_2SO_4	HNO_3	HCL	NaOH	ZnAc + NaOH	Ascorbic	NONE	OTHER	ANALYSIS
AA47352	~~MW-4~~ MW-4	6/5/97	1100		X	H_2O			2				1		VOCs, SVOCs
↓47353	~~MW-2~~ MW-3	6/5/97	1115		X	H_2O			2				1		VOCs, SVOCs

SAMPLER CERTIFIES THAT EACH SAMPLE RECEIVED PROPER FIELD PRESERVATION (IF REQUIRED) (INITIALS)

SAMPLE HAZARDS: ☐ FLAMMABLE ☐ SKIN IRRITANT ☐ NON-HAZARD ☒ UNKNOWN ☐ NOXIOUS FUMES

SPECIAL INSTRUCTIONS:

TEMPERATURE UPON RECEIPT: RT

Relinquished by: Jay Kaplan Agent of: Ecosystems Strategies, Inc	DATE/TIME PM 6/5/97 1:34	Received by: Agent of:	DATE/TIME 6-5 1:34
Relinquished by: Agent of:	DATE/TIME 6/5 1340	Received by: Lisa Fontaine Agent of: Veritech	DATE/TIME 6/5 1540

ATTACHMENT A-3

LABORATORY DATA PACKAGES FROM PREVIOUS TESTING

(GROUNDWATER TESTING SECOND ROUND)

NOTE:

COMPLETE ASP DATA PACKAGE
AVAILABLE UNDER SEPARATE COVER

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-1

Lab Name: CHEMTECH Contract: ECOSYSTEM STRATEGIES, INC.

Lab Code: CHEM -- Case No.: 4728ASP SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: O25097

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: P9943.D

Level: (low/med) Date Received: 7/31/97

% Moisture: not dec. 100 Date Analyzed: 7/31/97

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	5	JB
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene(total)	7.1	J
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	21	
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	86	
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	76	
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylenes(total)	10	U

000017

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-1

Lab Name: CHEMTECH Contract: ECOSYSTEM STRATEGIES, INC.

Lab Code: CHE Case No.: 4728ASP SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: O25097

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: P9943.D

Level: (low/med) _____ Date Received: 7/31/97

% Moisture: not dec. 100 Date Analyzed: 7/31/97

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1.				
2.				
3.				
4.				
5.				
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-1

Lab Name: CHEMTECH Contract: ECOSYSTEM STRATEGIES, INC.

Lab Code: CHEM Case No.: 4728ASP SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: O25097

Sample wt/vol: 1000.0 (g/mL ML Lab File ID: S11485.D

Level: (low/med) Date Received: 7/31/97

% Moisture: 100 decanted: (Y/N): N Date Extracted: 7/31/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/4/97

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

000014

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-1

Lab Name: CHEMTECH Contract: ECOSYSTEM STRATEGIES, INC.

Lab Code: CHEM Case No.: 4728ASP SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: O25097

Sample wt/vol: 1000.0 (g/mL ML Lab File ID: S11485.D

Level: (low/med) Date Received: 7/31/97

% Moisture: 100 decanted: (Y/N): N Date Extracted: 7/31/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/4/97

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo[a]anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	1.2	J
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo[b]fluoranthene	10	U
207-08-9	Benzo[k]fluoranthene	10	U
50-32-8	Benzo[a]pyrene	10	U
193-39-5	Indeno[1,2,3-cd]pyrene	10	U
53-70-3	Dibenz[a,h]anthracene	10	U
191-24-2	Benzo[g,h,i]perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
MW-1

Lab Name: CHEMTECH Contract: ECOSYSTEM STRATEGIES, INC.

Lab Code: CHE Case No.: 4728ASP SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 025097

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: S11485.D

Level: (low/med) Date Received: 7/31/97

% Moisture: 100 decanted: (Y/N) N Date Extracted: 7/31/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/4/97

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 3 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1. 127-18-4	Ethene, tetrachloro-	3.88	23	JN
2.	Unknown	15.38	12	J
3. 109-21-7	Butanoic acid, butyl ester	15.75	4.1	JN
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-3

Lab Name: CHEMTECH Contract: ECOSYSTEM STRATEGIES, INC.

Lab Code: CHEM Case No.: 4728ASP SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: O25098

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: P9944.D

Level: (low/med) Date Received: 7/31/97

% Moisture: not dec. 100 Date Analyzed: 7/31/97

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	3.1	JB
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene(total)	5.5	J
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	15	
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	74	
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	74	
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylenes(total)	10	U

000026

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
MW-3

Lab Name: CHEMTECH Contract: ECOSYSTEM STRATEGIES, INC.

Lab Code: CHE Case No.: 4728ASP SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: O25098

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: P9944.D

Level: (low/med) Date Received: 7/31/97

% Moisture: not dec. 100 Date Analyzed: 7/31/97

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
1. 1634-04-4	MTBE	4.82	4.2	JN
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EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

MW-3

Lab Name: CHEMTECH Contract: ECOSYSTEM STRATEGIES, INC.

Lab Code: CHEM Case No.: 4728ASP SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: O25098

Sample wt/vol: 1000.0 (g/mL ML Lab File ID: S11486.D

Level: (low/med) Date Received: 7/31/97

% Moisture: 100 decanted: (Y/N): N Date Extracted: 7/31/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/4/97

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-3

Lab Name: CHEMTECH Contract: ECOSYSTEM STRATEGIES, INC.

Lab Code: CHEM Case No.: 4728ASP SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: O25098

Sample wt/vol: 1000.0 (g/mL ML Lab File ID: S11486.D

Level: (low/med) Date Received: 7/31/97

% Moisture: 100 decanted: (Y/N): N Date Extracted: 7/31/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/4/97

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo[a]anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo[b]fluoranthene	10	U
207-08-9	Benzo[k]fluoranthene	10	U
50-32-8	Benzo[a]pyrene	10	U
193-39-5	Indeno[1,2,3-cd]pyrene	10	U
53-70-3	Dibenz[a,h]anthracene	10	U
191-24-2	Benzo[g,h,i]perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

MW-3

Lab Name: CHEMTECH Contract: ECOSYSTEM STRATEGIES, INC.

Lab Code: CHE Case No.: 4728ASP SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: O25098

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: S11486.D

Level: (low/med) _____ Date Received: 7/31/97

% Moisture: 100 decanted: (Y/N) N Date Extracted: 7/31/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/4/97

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 1 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1. 127-18-4	Ethene, tetrachloro-	3.93	33	JN
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-4

Lab Name: CHEMTECH Contract: ECOSYSTEM STRATEGIES, INC.

Lab Code: CHEM Case No.: 4728ASP SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: O25101

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: P9947.D

Level: (low/med) Date Received: 7/31/97

% Moisture: not dec. 100 Date Analyzed: 7/31/97

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	3.7	JB
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene(total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	21	
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5.5	J
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylenes(total)	10	U

000035

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-4

Lab Name: CHEMTECH Contract: ECOSYSTEM STRATEGIES, INC.

Lab Code: CHE Case No.: 4728ASP SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: O25101

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: P9947.D

Level: (low/med) _____ Date Received: 7/31/97

% Moisture: not dec. 100 Date Analyzed: 7/31/97

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc.	Q
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EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

MW-4

Lab Name: CHEMTECH Contract: ECOSYSTEM STRATEGIES, INC.

Lab Code: CHEM Case No.: 4728ASP SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 025101

Sample wt/vol: 1000.0 (g/mL ML Lab File ID: S11487.D

Level: (low/med) Date Received: 7/31/97

% Moisture: 100 decanted: (Y/N): N Date Extracted: 7/31/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/5/97

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

000029

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-4

Lab Name: CHEMTECH Contract: ECOSYSTEM STRATEGIES, INC.

Lab Code: CHEM Case No.: 4728ASP SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: O25101

Sample wt/vol: 1000.0 (g/mL ML Lab File ID: S11487.D

Level: (low/med) Date Received: 7/31/97

% Moisture: 100 decanted: (Y/N): N Date Extracted: 7/31/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/5/97

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo[a]anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo[b]fluoranthene	10	U
207-08-9	Benzo[k]fluoranthene	10	U
50-32-8	Benzo[a]pyrene	10	U
193-39-5	Indeno[1,2,3-cd]pyrene	10	U
53-70-3	Dibenz[a,h]anthracene	10	U
191-24-2	Benzo[g,h,i]perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

MW-4

Lab Name: CHEMTECH Contract: ECOSYSTEM STRATEGIES, INC.

Lab Code: CHE Case No.: 4728ASP SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: O25101

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: S11487.D

Level: (low/med) Date Received: 7/31/97

% Moisture: 100 decanted: (Y/N) N Date Extracted: 7/31/97

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 8/5/97

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 0 Concentration Units: (ug/L or ug/Kg) ug/L

CAS Number	Compound Name	RT	Est. Conc	Q
1.				
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ATTACHMENT B

ESI STAFF RESUMES

PAUL H. CIMINELLO
PRESIDENT

EDUCATION

Master of Environmental Management, 1986
School of the Environment, Duke University, Durham, North Carolina

Master of Arts in Public Policy Sciences, 1986
Institute of Policy Sciences and Public Affairs, Duke University, Durham, North Carolina

Bachelor of Arts, 1980
Tufts University, Medford, Massachusetts

CERTIFICATIONS AND TRAINING

NJ Dept. of Environmental Protection Licensed Subsurface Evaluator (License Number: 0014686)
NYS Dept. of Labor Certified Asbestos Building Inspector (Cert. Number: AH92-14884)
Connecticut Department of Environmental Protection Interim Environmental Professional
NYS Department of State, Division of Licensing Services, Real Estate Instructor
In compliance with OSHA Hazardous Materials Safety (29 CFR 1910) requirements.

PROFESSIONAL EXPERIENCE

President, Ecosystems Strategies, Inc., Poughkeepsie, New York 1992 to present

Coordinates corporate strategic planning, financial management and marketing activities. Oversees corporate work on state and federal superfund sites and manages education/training services. Responsible for technical services in areas of pollution prevention, contaminant delineation and site remediation. Major recent projects of relevance include:

- Pollution prevention assessments of two regional hospitals in New York (including medical, radiological and toxicological laboratories), proposing management and structural changes which are anticipated to result in net annual savings exceeding $50,000 per site.
- Facility compliance and pollution prevention assessment of all activities at a public school district in New York, including waste oil handling and chemical disposal..
- Environmental compliance Audit of major (one million + square feet) medical complex in New York City, including assessment of laboratory discharges, radioactive/medical waste storage/disposal practices and chemical handling procedures.
- Preparation of medical waste handling procedures (including staff training) for moderate size nursing home in New York City.
- Preparation of environmental policies for regional lending institution. Designed all required Bank forms and conducted seminars to train Bank personnel. Provide on-going environmental assessment and guidance for Bank ORE and loan applications.
- Investigation, contamination delineation and remediation of PCB contaminated soil at former electronics manufacturing site. Coordinated remediation with site reuse.
- Contaminant delineation and soil remediation of commercial property contaminated with PCE. Coordinated site closure activities, including communication with involved regulatory agencies. Successfully prevented site's inclusion onto NYS "Superfund" registry.
- Integration of site remediation services at Former Major Oil Storage Facility (MOSF) with site redevelopment in Dutchess County, New York. Installation of groundwater remediation system concurrent with site construction activities.

Senior Hazardous Waste Specialist. U.S. Hydrogeologic, Inc., Poughkeepsie, New York 1986 to 1992

Supervisor for corporate hazardous and solid waste investigatory and remedial services. Major projects included:

- Coordination of subsurface investigations at a New York State Superfund site (former industrial facility); project manager in charge of site reclassification (delisted as of January, 1991).
- Coordination of petroleum storage tank management plan for Dutchess County (NY) Department of Public Works, including an assessment of regulatory compliance, product utilization and physical conditions of more than 100 tanks at over 20 facilities.
- Environmental compliance Audit of 42,000-square foot printing facility with specific remediations for solvent handling/disposal, inks storage and metal recovery processes.

Adjunct Professor, Dutchess (NY) Community College, Poughkeepsie, New York 1991 to 1992

Courses: Macroeconomics, Environmental Economics

Policy Intern, Southern Growth Policies Board, North Carolina 1985

Prepared several in-depth and short analyses of environmental and economic issues, with specific concern for their impact on Southern state policies. Analyses included: hazardous waste facility siting policies and environmental impacts of "high tech" industries on host communities.

Research Assistant, University of Oregon, Eugene, Oregon 1983

Analyzed (with Dr. John Baldwin, Chairman of the Department of Planning, Public Policy and Management, U. of Oregon) the "Oregon Riparian Tax Incentive Program". Designed survey, conducted interviews and analyzed data. Summary paper with programmatic recommendations, was presented at the Annual Conference of the National Association of Environmental Educators.

RELATED EXPERIENCE

Research Assistant, School of the Environment, Duke University, North Carolina 1986

Assisted in the design and evaluation of risk assessment models to estimate the impact of landfill leachate on human health. Monte Carlo simulation and pollutant transport models used in the analyses.

Research Assistant, USDA Forest Service, Duke University, North Carolina 1985

Collected economic data and assisted in statistical analyses for a study isolating research as a variable in timber production functions.

Research Assistant, School of the Environment, Duke University, North Carolina 1984

Preliminary research on the use of mathematical models by water resource administrators.

Teacher, Eugene, Oregon 1980-1983

PRESENTATIONS

- "Environmental Risks in Lending" Training Session for Pawling Savings Bank employees. December 18 and 19, 1989; and July 1, 1993.
- "Identifying Environmental Concerns in Appraisals", Workshops for Lakewood Appraisal Corporation,

October, and November, 1989 and April, 1990.

- "State and Local Groundwater Protection Strategies", Annual meeting of the New York State Association of Towns, February, 1990.
- "Environmental Audits on Orchards and Agricultural Properties", Resource Education Institute, Inc., Real Estate Site Assessment and Environmental Audits Conference, December 4, 1990.
- "Environmental Audits on Orchards and Agricultural Properties", National Water Well Association Annual Conference, July 29-31, 1991.
- "Principles of Environmental Economics for Ground Water Professionals", National Groundwater Association Outdoor Action Conference, May 27, 1993.
- "Impact of Environmental Liabilities on Real Estate Transactions", a NYS Department of Education approved course for licensed real estate professionals, March 1995; April 1995; May 1995; October 1995.
- "Brownfields Redevelopment in New York: A Discussion of Two Case Studies", New England Environmental Conference 1996, March, 1996.
- "Quantifying Environmental Liabilities", a NYS Department of Education approved course for licensed real estate professionals, March 1997 (scheduled).

ARTICLES

Ciminello, P. 1993. A Primer on Petroleum Bulk Storage Tanks and Petroleum Contamination of Property. ASHI Technical Journal Volume 3, No. 1

Ciminello, P. 1991. Environmental Audits on Orchard and Other Agricultural Properties. Proceedings of the National Water Well Association Annual Conference.

Ciminello, P. 1991. Property Managers Should Carefully Examine Current Fuel Storage Practices. NYS Real Estate Journal Vol. 3, No. 9

Ciminello, P. 1991. New DEC Regulations Affect Development of Agricultural Lands. NYS Real Estate Journal Vol. 3, No. 6

Ciminello, P., Hodges-Copple, J. 1986. Managing Toxic Risks From High Tech Manufacturing. Growth and Environmental Management Series (Southern Growth Policies Board)

Ciminello, P. 1986. State Assistance in Financing Water Treatment Facilities. Growth and Environmental Management Series (Southern Growth Policies Board)

Ciminello, P. 1985. Plants Amid Plantings: The Future Role of Environmental Factors in Business Climate Ratings. Southern Growth ALERT (Southern Growth Policies Board)

Ciminello, P. J. Baldwin, N. Duhnkrack. 1984. An Incentive Approach to Riparian Lands Conservation. Monographs in Environmental Education and Environmental Studies (North American Association of Environmental Educators)

PROFESSIONAL AFFILIATIONS

American Water Resources Association
National Groundwater Association
Hazardous Materials Control Research Institute

ADDITIONAL INFORMATION

Member, Dutchess County (NY) Youth Board (1987-1992); Chairman, 1992
Member, City of Poughkeepsie (NY) School District Ad Hoc Committee on Teen Parents and Pregnancy Prevention (1991)

Member, City of Poughkeepsie School District Budget Advisory Committee (1994 to present)
Member, City of Poughkeepsie PTA and Middle School Building Level Team

RONALD EDWARD BIELINSKI, P.E.

PROJECT MANAGER, SENIOR ENGINEER

EDUCATION

Bachelor of Science in Chemical Engineering
Polytechnic Institute of New York, Brooklyn, New York

EXPERIENCE

Project Manager/Senior Engineer — 1983 to present

Responsible for building inspections; fire safety inspections; code compliance (state education department safety inspections); industrial hygiene; environmental assessment/impact statement investigations; air pollution control systems; indoor air quality investigations and remediation; interior design of corporate offices, laboratories and manufacturing facilities including specialized lighting; noise control and air quality requirements; asbestos/lead investigation and abatement design; ventilation systems testing and design.

Environmental Engineer/Industrial Hygienist, Versar, Inc. Springfield, VA — 1982 to 1983

Chief Engineer at the Binghamton State Office Building decontamination project. Designed wastewater treatment system to remove PCBs, Dioxins and Furans from the cleanup.
Chief Engineer at the EPA's Dioxin Combustion Research Facility in Pine Bluff, AK. Designed the effluent sampling systems to determine emission compliance.

Environmental Engineer, Penick Corporation, Unit of CPC International, Lyndhurst, NJ — 1979 to 1981

Responsible for environmental monitoring, industrial hygiene monitoring, hazardous waste management, closure plans and regulatory compliance. Designed self-contained hazardous material production facilities including ventilation system, air pollution control system and interior furnishings.

Technical Services Engineer/Process Engineer,
Monsanto Company, Industrial Chemicals Division, Kearny, NJ — 1978 to 1979
Enviro-Chem Systems, St. Louis, MO — 1977 to 1978

Air Pollution Control Systems Design & Testing, Environmental Monitoring, Stack Testing.

LICENSES AND CERTIFICATIONS

Licensed Professional Engineer	New York, New Jersey, Pennsylvania, Connecticut
Licensed Interior Designer	Washington, D.C.
Diplomate Environmental Engineer in Industrial Hygiene	American Academy of Environmental Engineers
Certified Industrial Hygienist in Comprehensive Practice	American Board of Industrial Hygiene
Registered Occupational Hygienist	Canadian Registration Board of Occupational Hygienists
Certified Safety Professional in Comprehensive Practice	Board of Certified Safety Professionals

LICENSES AND CERTIFICATIONS (cont.)

NCIDQ-Certified Interior Designer	National Council of Interior Design Qualification
Asbestos Safety Technician	New Jersey Department of Community Affairs
Certified Asbestos Inspector	New York State Department of Labor
Certified Asbestos Project Designer	New York State Department of Labor
Certified Asbestos Investigator	New York City
National Radon Contractor Proficiency List	Environmental Protection Agency

MEMBERSHIPS

Society of Fire Protection Engineers
American Industrial Hygiene Association
American Institute of Chemical Engineers
American Society of Interior Designers

ŻYWIA WOJNAR, CHMM

PROJECT MANAGER, SUBSURFACE INVESTIGATIONS

EDUCATION

B.S./M.S. in Biology, 1970-1975
Jagiellonian University, Kraków, Poland;

Swarthmore College, Swarthmore, PA , 1969-1970

CERTIFICATIONS AND TRAINING

Certified Hazardous Materials Manager at the Master Level, 1994.
Certified by the NJDEPE UST Program for Subsurface Evaluation, 1995.
OSHA Hazardous Waste Site Operations and Emergency Response Training, 1990-1995; includes 8-hour Supervisor Health and Safety Training, (1992) and Refresher Training consistent with OSHA Appendix E ruling, (1995)

PROFESSIONAL EXPERIENCE

Project Manager, Ecosystems Strategies, Inc., Poughkeepsie, N.Y. 1995 - Present

Project Manager for technical environmental investigations and remedial projects. Current projects include assessment of remedial options to reduce methane levels in a commercial building, closure of several petroleum spills (including groundwater), assessment of waste stream characteristics for a potentially responsible party at a municipal landfill, and NYSDEC permitting for a solid waste management facility.

Senior Staff Scientist, U.S. Hydrogeologic, Inc., Poughkeepsie, N.Y. 1990 - 1995

As Senior Staff Scientist, project and fiscal management included proposal and workplan preparation; contract negotiations with clients from private (banking, legal, commercial, and industrial) and public (county and municipal) sectors; staff supervision and training during field investigations and in office responsibilities; preparation and implementation of health and safety programs; data evaluation and report preparation; extensive client, subcontractor and regulatory agency interface and negotiation.

Senior Environmental Technician, CDI Corporation, Hopewell Junction, N.Y. 1989 - 1990

As Senior Environmental Technician, responsible for tracking air emissions compliance in assigned buildings within IBM Semiconductor Facility in East Fishkill, N.Y. Regular inspections of the facility were conducted, and communication maintained with managers, technicians, and tool operators. Information relating to supply, consumption and discharge of chemicals was compiled, and necessary calculations performed to complete air permit forms for submission to the New York State Department of Environmental Conservation.

Research Technician, Vassar College Biology Department, Poughkeepsie, N.Y. 1987 - 1989

As Research Technician, coordinated and conducted biomedical research on small rodents which included feeding studies, ^{125}I radio-immunoassay runs and management of radio-nuclide wastes, animal surgery, statistical analysis, and graphical presentation of data.

Research Assistant, Rockefeller University, Millbrook, N.Y. 1986 - 1987

As Research Assistant conducted extensive computer analysis of endangered Bowhead Whale migration data for populations studies.

INTERNATIONAL EXPERIENCE

- Team member of program co-sponsored by the United States Information Agency and Rutgers University in April 1992: "Advancing the Understanding of Local Government for Polish and Central and Eastern European Leaders." Responsibility within this program was to provide technical assistance and guidance relating to environmental protection, and to conduct local and regional needs assessment for government officials in Poland. Project included a 2-week stay in Poland to become familiarized with local conditions, followed by development in the U.S.A. of videotapes (in Polish) for future use in regional training centers throughout Poland.

- Participant in 1993 workshop sponsored by Rutgers University exchange program for Polish local government, environmental agency officials, and scientists. Panel discussion addressed academic, private and public sector perspectives.

- Prepared technical translations from Polish to English language for Jagiellonian University publications in Poland and for Greenpeace international program.

PUBLICATIONS AND ABSTRACTS

Greenburg, D., Kava, R., Wojnar, Ż., Greenwood, M.R.C. Satiation following intraduodenal infusion of intralipid occurs prior to appearance of [^{14}C]-intralipid in plasma. Society for Neuroscience, Phoenix, Arizona, 1989.

Kava, R., Horowitz, C., Wojnar, Ż., Turkenkopf, I., Johnson, P.R. and Greenwood, M.R.C. Adrenalectomy alters glucose homeostasis in a strain-dependent manner in Zucker and Wistar fatty rats. North American Association for the Study of Obesity (NAASO), Bethesda, MD, 1989.

Wojnar, Ż., Influence of temperature on the embryonic development of Tetrodontophora bielanensis Waga (Collembola). Master's thesis in Zoology. Jagiellonian University, Kraków, Poland, 1975.

PROFESSIONAL AFFILIATION

Academy of Certified Hazardous Materials Managers
American Institute of Chemical Engineers - Treasurer, Tappan Zee, N.Y. Section - 1996
National Ground Water Association/Association of Ground Water Scientists and Engineers

SELECTED PROJECT EXPERIENCE

- Project Manager for assessment of RCRA closure and interim status investigations of 75-acre manufacturing and TSD facility located in Dutchess County, NY. Scope of work involved review of closure and corrective actions performed over 9-year period, and implementation of field investigation to assess current environmental conditions associated with chromium, lead and chlorinated hydrocarbons present in on-site soils and groundwater.

- Managed, supervised and conducted numerous Phase I, Phase II, and Phase III Environmental Site Assessments throughout the eastern United States. Sites included industrial, commercial and institutional properties.

- Project Manager for environmental site assessment of RCRA manufacturing facility and NYSDEC potential Inactive Hazardous Waste Disposal site in Dutchess County, NY. Compilation of historical data and additional groundwater monitoring supplemented findings of previous studies that served as basis to delist this CERCLA site from the NYSDEC Registry.

- Project Coordinator for inventory, assessment, and compliance of petroleum bulk storage facilities operated by Dutchess County, NY. Conducted more than 20 site inspections and prepared final report which included recommendations for improved efficiency and compliance of facilities.

- Project Manager for UST closure at an elderly care facility in New York City. Supervised petroleum-contaminated soil removal and replacement of two 20,000-gallon fuel oil USTs and one 550-gallon diesel UST. Remediation was performed concurrent with on-going $57 million construction project and included coordination of all activities with site owner, architects, engineers, lawyers, construction managers, subcontractors, and NYSDEC.

- Project Coordinator, field team leader, and QA/QC Officer in Preliminary Site Assessment on former chemical manufacturing site/construction facility which is classified as a NYSDEC potential Inactive Hazardous Waste Disposal Site. Elevated levels of chromium, cadmium and lead, as well as chlorinated hydrocarbons were identified in on-site soils.

- Project Manager for phased subsurface investigation at former gasoline station in Orange County, NY. Study included soil borings, groundwater monitoring, passive soil-gas survey, site remediation, and a risk-based study (including aquifer testing) to determine impacts and need for continued remediation of dissolved petroleum hydrocarbons in the groundwater.

- Litigation support for industrial PRP. Responsibilities included comparative analysis of waste stream chemistry to on-site contaminant profiles and determination of cause for remediation at solid waste municipal landfill, a Class 2 NYSDEC Inactive Hazardous Waste Disposal Site.

- Project Manager for residual pesticide analysis on former apple orchard in Dutchess County, NY. The study included design and implementation of NYS Department of Health approved sampling plan on 100-acre property. Results were interpreted from a comprehensive set of organic pesticide and metals analyses. Final report identified potential problem areas, and provided recommendations for this proposed residential development.

KATHERINE J. BEINKAFNER, PH.D., CPG

SENIOR HYDROGEOLOGIST

EDUCATION

Bachelor of Arts (Geology), Master of Arts (Geology) 1961-1965
S.U.N.Y. at New Paltz, New Paltz, New York

Geophysics, 1965-1966
Rensselaer Polytechnic Institute, Troy, New York

Master of Science (Physics), 1968-1969
University of Pennsylvania, Philadelphia, Pennsylvania

Ph.D. (Geology), 1977-1980
Syracuse University, Syracuse, New York

CERTIFICATIONS AND TRAINING

Petroleum Geologist Number 2683 by American Association of Petroleum Geologists
Professional Geological Scientist Number 6611 by American Institute of Professional Geologists

Environmental Regulatory Compliance, HazMat
QA, Senior Review, Expert Testimony
Surface and Borehole Geophysics
Groundwater, Hydrology, and Wetland Studies
Computer Modeling of Groundwater Systems
Risk Assessment of Subsurface Contaminants

PROFESSIONAL EXPERIENCE

Sr. Hydrogeologist, Ecosystems Strategies, Inc.,Poughkeepsie, New York	1994 - present
Sr. Hydrogeologist, EA Engineering, Newburgh, New York	1991-1993
Sr. Hydrogeologist, Dames & Moore, Pearl River, New York	1989-1991
Adjunct Professor, Rutgers, The State University of New Jersey, Newark, Newark, New Jersey	Fall 1987
Senior Consulting Hydrogeologist, Milton Chazen Engineering Assoc., Poughkeepsie, New York	1986-1987
Senior Reservoir Geologist, Lawrence-Allison West, Casper, Wyoming	1984-1986
Dipmeter Consultant, Terrasciences, Inc., Lakewood, Colorado	1985
Senior Development Geologist, Sohio Petroleum Company, San Francisco, California	1980-1984
Summer Geologist, ARCO Oil and Gas Company, Midland, Texas	1979
Consulting Petroleum Geologist, Kirby Exploration Co., Houston, Texas	1979
Adjunct Teaching Geologist, College of St. Rose, Albany, New York	1975
Scientist (Oil & Gas Geology), Geological Survey, New York State Museum & Science Service State Education Dept., Albany, New York	1972 - 1979
Junior Scientist (Oil & Gas Geology), Geological Survey, New York State Museum & Science Service State Education Dept., Albany, New York	1969-1972
Physics Teacher, Franklin D. Roosevelt High School	1966-1968

SELECTED PROJECT EXPERIENCE

LANDFILLS

- Youmans Flats Landfill, Bear Mountain State Park: Conducted hydrogeological investigation and prepared Closure Investigation Report. Field work involved installation of monitoring wells, aquifer testing,explosive gas survey, gas vent sampling, vector investigation, and sampling of monitoring wells, leachate seeps, and surface waters.

- Prepared maps and cross sections showing groundwater quality contravening New York State Groundwater standards.

- Hydrogeologic Investigations for Town of New Paltz and Lumberland Landfills: Conducted similar investigations for compliance with Part 360 regulations.

- Town of New Windsor Landfill: Based on hydrogeologic data, prepared load calculations for leachate collection system for Part 360 closure of landfill with hazardous waste.

HAZARDOUS WASTE

- Senior review for Remedial Investigation of a chemical plant (Superfund Site) in Skaneatales Falls, New York. Hydrogeologic setting is carbonate bedrock with contaminants migrating offsite from a chemical waste landfill. Designed and reviewed seimic refraction survey to define buried vallies in bedrock surface. Researched literature for Feasibility Study and alternate remedial actions.

- Several NYS Superfund Sites including IBM. East Fishkill; Fair Rite Products, Wallkill; and InterCeram/Ceramix near Middletown: Supervising Field Geologist, drilling and installation of 40 monitoring wells at a manufacturing plant with volatile organics in the overburden and bedrock, C and D levels of protection. Aquifer testing and analysis.

- Preparation of Remedial Investigation Reports.

PETROLEUM SPILLS

- Expert witness, preparation of testimony for lawsuits involving oil spills and groundwater contamination, remediation of Superfund sites, and environmental reviews for construction projects.

- Senior review of remedial design of a combination air sparging and vacuum extraction system for removal of hydrocarbon contaminants at a large petroleum terminal in Brooklyn. Site is a demonstration project for EPA.

- For one gas station in a cluster of stations in proximity to MTBE contamination of public water supply wells in Liberty, NY; conducted hydrogeologic investigation and prepared testimony for public hearings and potential legal proceedings.

RADIOACTIVE WASTE

- West Valley Demonstration Project, DOE & NYS Radioactive Waste Storage Facilities: Sr. Project Geologist, development of groundwater monitoring plan for ten solid waste management units and three water-bearing stratigraphic units for RCRA and DOE compliance. Also preparation of bid specification documents for monitoring well installation.

- For Martinsville, Illinois Proposed Site: Task Manager, preparation of site characterization chapters of license application for Low Level Radioactive Waste Disposal Facility encompassing topics of geomorphology, stratigraphy, structural geology, seismicity, groundwater, hydrology, and geotechnical evaluation.

COMPUTER MAPPING & GROUNDWATER FLOW MODELS

- Groundwater modeler, development of computer model of three dimensional groundwater flow system at Sharkey Landfill, New Jersey, a Superfund Site, for remedial design.

- Task Manager, groundwater modeling of radionuclide transport in support of pathway analysis and dose calculations for a Low Level Radioactive Waste Disposal Facility, proposed Martinsville, Illinois site.

- IBM, East Fishkill: Project Manager, aquifer characterization and contaminant flow at a Research andFacility involving collection and compilation of stratigraphic, strucutral geology, water level, and water quality data (from borings, monitoring wells, supply wells, outcrops, and water samples) using dBASE 3, software to allow input of database into AutoCAD for mapping, cross sections, and flow model development. Interpretation of flow systems in imbricate thrust sheets with fracture zones and incorporation into a 3-D model of contaminant flow.

- Naval Petroleum Reserve #3 (Teapot Dome) Wyoming: Development of 3-D numerical computer models for petroleum production in sandstone and fractured reservoirs.

- Integrated geophysical well log analysis and mapping packages with custom software to generate data arrays for porosity, permeability, net pay, geologic structures, fluids, and phases. Taught inhouse courses in use of computer programs for interpretation and analysis of geophysical borehole logs and three dimensional mapping of petroleum-trapping geologic structures.

- New York State Geological Survey, Staff Geologist: Reponsible for petroleum exploration well data. Conducted subsurface stratigraphic studies using well logs and computer mapping.

TEACHING

- Adjunct Professor, taught groundwater hydrology course at Rutgers University at Newark, for undergraduate and graduate students.

- Naval Petroleum Reserve #3: Taught inhouse courses in use of computer programs for interpretation and analysis of geophysical borehole logs and three dimensional mapping of petroleum-trapping geologic structures.

- Development of geologic software for computer processing and graphic interpretation of dipmeter well logs for exploratory wells. Training course development and presentation to groups of petroleum engineers and geologists (one and two week classes). Dipmeter allows the interpretation of three dimensional structures by extrapolating changes in bedding orientation detected in microresistivity logging of boreholes.

- At EA Engineering, senior hydrogeologist in Waste Management Divison. Taught inhouse courses in slug testing, use of simple computer flow models, sampling at hazardous waste sites.

- Conducted seminars on landfill siting and closure requirements for local governments.

WATER RESOURCE DEVELOPMENT

- Town of Wallkill: Senior review for geophysical investigation of potential municipal water supply along the Wallkill River in Orange County, NY. Supervised field installation, pump testing, and sampling of 12 inch diameter wells. Provided senior review for final report recommending usage of a one million gallon per day well with backup well.

- Field supervision, testing, reporting, quality assurance review for numerous water supply projects in Ulster, Dutchess, and Orange County. Familiar with several computer programs and analog techniques for aquifer analysis of pumping tests in confined and unconfined aquifers.

BOREHOLE GEOPHYSICS

- For two PCB contaminated sites at Fort Edward and Hudson Falls, NY: Dr. Beinkafner provided borehole geophysics logging services in monitoring wells and production wells.

- Log interpretation indicated the presence of several imbricate thrust sheets and hydraulic conductive fracture zones.

PUBLICATIONS AND ABSTRACTS

Beinkafner, K. J. (1984) Decollement Tectonics of the Allegheny Plateau in Southern New York State: Geol. Soc. Amer. Abstr. Programs, v. 16, no. 1, p. 2.

Beinkafner, K. J. (1984) Computer Processing of Dipmeter Log Data: Enhancement of a Subsurface Exploration Tool: Proceedings of the 27th International Geological Congress. Moscow, USSR, August 1984.

Beinkafner, K. J. (1984) Mapping of Seismic Reflectors in Southern New York: Compensation for Velocity Anomalies in Glacial Overburden: Amer. Assn. of Petrol. Geol. Bull., v. 68

Beinkafner, K. J. (1983) Tracing the Sole of a Thrust through Thick and Thin of the Salina Group (Upper Silurian): Decollement Tectonics of the Southern Tier: New York: Amer. Assn. Petrol. Geol. Bull., v. 67, p. 1452.

Beinkafner, K. J. (1983) Deformation of the Silurian and Devonian Rocks of the Southern Tier, New York State: Syracuse University unpublished Ph.D. dissertation, 333 pages, 12 plates.

Beinkafner, K. J. (1983) Terminal Expression of Decollement in Chautauqua County, New York: Northeastern Geology, v. 4, no. 3, p. 1-12.

Beinkafner, K. J. (1983) Southern Tier, New York: Compendium of Subsurface Geology: edition, privately published and distributed, 350 pages, 12 plates, 30 tables, 127 figures.

Beinkafner, K. J. (1982) Structural Revelations from Seismic Interpretations, Southern Tier, New York: Amer. Assn. Petrol Geol. Bull., v. 66, p. 1164-1165.

Beinkafner, K. J. (1981) Quantitative Analyses of the Herkimer Formation (Upper Silurian) in the Subsurface of Central New York State: New York State Museum and Science Service Bulletin 437, 31

Beinkafner, K. J. (1980) Quantitative Biostratigraphy of the Trenton Group (Middle Ordovician) using Conodont Occurrences in New York, Ontario, and Quebec: Proceedings of the Second Northeastern Women's Geoscientist Conference, St. Lawrence University, Canton, NY, p. 10-31.

Beinkafner, K. J. (1975) Statistical Probability of Find-ing Gas-Bearing Reefs in the Onondaga Formation Edgecliff Member in New York State: Amer. Assn. Petrol. Geol. Bull., v. 59, no. 5, p. 1734.

Connola, D. P. and Beinkafner, K. J. (1976) Large Outdoor Cage Tests with Eastern White Pine being Tested in Field Plots for White Pine Weevil Resistance: 23rd Northeastern Forest Tree Improvement Conference, Rutgers University, New Brunswick, New Jersey, p. 56-64.

Kreidler, W. L., Van Tyne, A. M., and Jorgensen, K. M. (1972) Deep Wells in New York State: New York State Museum and Science Service Bulletin 418A, 335 p., 3 plates.

Van Tyne, A. M., Beinkafner, K. J. and Knapp, S. M. (1980) Deep Wells of New York State: New York State Museum and Science Service Bulletin 418B, 237 p., 3 plates.

PROFESSIONAL AFFILIATIONS

American Association of Petroleum Geologists
American Institute of Professional Geologists
Association for Women Geoscientists
Computer Oriented Geological Society
Geological Society of America
International Association for Mathematical Geology
National Water Well Association
Society of Economic Paleontologists and Mineralogists
Society of Professional Well Log Analysts

PROFESSIONAL HONORS

Fellow of Geological Society of America

CATHERINE L. MONIAN

PROJECT MANAGER, MEDICAL FACILITIES INVESTIGATIONS

EDUCATION

Bachelor of Arts, May 1991
Vassar College, Poughkeepsie, New York

EXPERIENCE

Project Manager, Ecosystems Strategies, Inc., Poughkeepsie, N.Y. 1992 - present

Coordinate and conduct Phase I and Phase II environmental investigations to provide information on a designated area's environmental status. Responsibilities include the preparation of preliminary environmental assessments, the analysis of facility compliance with respect to applicable local, state and federal regulations, the collection of soil, air, and water samples, and the coordination and management of site remediation activities. Major projects have included:

- Prepared Phase I Environmental Audit for a 1,200,000 square foot medical campus, including the review of medical, hazardous and solid waste storage and disposal practices, air quality compliance, and compliance with petroleum storage regulations; prepared Spill Prevention, Control and Countermeasure Plan for hospital and oversaw the removal of underground petroleum bulk storage tanks.
- Conducted preliminary environmental assessment of 250-acre estate; coordinated and oversaw removal of petroleum bulk storage tank and provided professional guidance with respect to future site remediation of petroleum contaminated soil.
- Conducted City of New York Environmental Quality Review of city-owned, 300,000 square foot property located in lower Manhattan.
- Conducted preliminary investigation of a 350-acre agricultural site; coordinated and oversaw the delineation and remediation of an illegal dump, including the removal of three petroleum bulk storage tanks; supervised the remediation of soil contaminated with petroleum hydrocarbons.

Research Technician, Vassar College, Poughkeepsie, New York 1991-1993

Investigated the effects of estrogen and antiestrogens on food intake and body weight gain in rats, and the expression of *c-fos* in rat hypothalamus. Responsibilities included animal surgery, designing and conducting immunocytochemical and cytosol binding assays, histological procedures as well as managing daily laboratory operations.

Pew Fellow, MDI Biological Laboratory, Salsbury Cove, ME 1991

Investigated the role of catechol oxidase in the formation of skate egg capsules and helped develop an affinity chromatography system for proteolytic enzymes. Techniques performed included SDS and activity gel electrophoresis, spectrophotometric enzyme and protein assay, gel filtration, affinity chromatography, preparation of cell lysates, and handling of marine organisms.

Research Assistant, Vassar College, Poughkeepsie, New York 1990

Aided in the investigation of the effect of methyl capseisin on food intake in rats. Responsibilities included monitoring food intake and animal weights.

URSI Research Fellow, Vassar College, Poughkeepsie, N.Y. 1990

Investigated the targeting of viral membrane proteins in MDCK cells. Techniques performed included cell culture, pulse-chase radioisotope labeling, gel electrophoresis, autoradiography, protein assay, preparation of buffers and solutions, and sterile technique.

PUBLICATIONS AND ABSTRACTS

Straus, J.W., Monian, C.L., and Cox, D.L. (1993) Nidamental gland catechol oxidase in the little skate (*Raja erinacea*): latency caused by an endogenous low molecular weight factor. *Comp. Biochem. Physio.* **105B**, 117-122.

Straus, J.W., Monian, C.L. and Cox, D.L. (1992) Catechol oxidase latency in nidamental gland extracts from the little skate (*Raja erinacea*). *Bull. Mt Desert Island Biol. Lab.* **31**, 24-26.

Gray, J., Monian, C., Seaman, R., Bogdany, J., and Bialy, T. (1993) Calmodulin antagonists: Effects on antiestrogen binding in brain, food intake, and body weight. *Society for Neuroscience Annual Meeting, Washington, D.C.*

Monian, C.L. and Mayne, J. (1990) Partial characterization of two MDCK cell mutants that are defective in VSV G-protein maturation. *Undergraduate Research Summer Institute, Vassar College, Poughkeepsie, New York.*

INTERESTS

Member of American Association of University Women (AAUW)
Co-Chair of Program for Poughkeepsie Branch of AAUW
Member of AAUW Manderley Literary Society

ATTACHMENT C

HEALTH AND SAFETY PLAN

HEALTH AND SAFETY PLAN

FOR SITE CLOSURE ACTIVITIES

on the property located at

98-116 SOUTH 4TH STREET
BOROUGH OF BROOKLYN
KINGS COUNTY, NEW YORK

October 13, 1997

ECOSYSTEMS STRATEGIES, INC.
60 WORRALL AVENUE
POUGHKEEPSIE, NEW YORK 12603
(914) 452-1658

ESI File Number: PB96146.40

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1.0 INTRODUCTION

This Health and Safety Plan (HASP) has been developed to provide the requirements and general procedures to be followed by Ecosystems Strategies, Inc. (ESI) personnel and authorized subcontractors while performing environmental remediation services at the El Puente Site located at 98-116 South 4th Street in the Borough of Brooklyn, Kings County, New York. This HASP describes the responsibilities, training requirements, protective equipment, and standard operating procedures to be utilized by ESI personnel and all subcontractors while on the site. This HASP incorporates by reference the applicable Occupational Safety and Health Administration requirements in 29 CFR 1910 and 29 CFR 1926.

The requirements and guidelines in this HASP are based on a review of available information and evaluation of potential on-site hazards. This HASP will be discussed with site personnel and will be available on-site for review while work is underway. On-site ESI personnel report to the ESI Site Safety and Health Officer (SSHO) in matters of health and safety. The on-site ESI project supervisor(s) are responsible for enforcement and implementation of the ESI HASP.

This HASP is specifically intended for the conduct of activities within the defined scope of work in specified areas of the site. Changes in site conditions and future actions that may be conducted at this site may necessitate the modification of the requirements of the HASP. Although this HASP can be made available to interested persons for informational purposes, ESI has no responsibility over the interpretations or activities of any other persons or entities other than employees of Ecosystems Strategies, Inc.

1.1 Work Activities

The purpose of the subsurface investigation is outlined in the Final Workplan dated December 3, 1997.

2.0 ECOSYSTEMS PROJECT PERSONNEL

Project Managers:	Paul H. Ciminello
	Ronald Bielinski, P.E.
Site Safety and Health Officer:	Paul H. Ciminello
Field Team:	
Senior Professionals:	Paul H. Ciminello
	Ronald Bielinski, P.E.
	Catherine L. Monian
	Katherine J. Beinkafner, PhD.

Quality Assurance Officer:	Żywia Wojnar
Technician(s):	Catherine L. Monian
	Jerald A. Kaplan
Subcontractors:	To be determined

3.0 Health and Safety Hazards

Previous site investigations on this site have identified conditions which have led to contamination of surface soils and groundwater on the El Puente Site. Investigations have also documented the presence of contaminated subsurface soil on specified portions of this site.

Based on the above information, it is likely that site workers will come into contact with soils containing petroleum hydrocarbons and/or chlorinated hydrocarbons during site remediation activities. These contaminants may cause adverse health impacts through inhalation or ingestion but will not penetrate intact skin. Skin contact with concentrated solutions of these contaminants may present a dermatitis problem. Inhalation of these petroleum hydrocarbons is a likely route of exposure during the subsurface investigation because of the way that the soil material will be handled.

A limited potential for accidents exists as the project site will not be operational during the proposed field work. Other safety hazards, such as tripping and loose debris that are associated with on-site sampling and investigations within an abandoned site have been identified. Increased awareness of these hazards will be communicated to the personnel involved.

Measures within this HASP have been selected to protect workers from dust entering the eyes and contacting the skin. Protection from exposure of the respiratory system to respirable dusts generated during the subsurface investigation has also been considered.

Use of the existing ESI standard operating procedures and the engineering controls, work practices and personal protective equipment specified in this HASP is intended to minimize the risks of potential overexposure to hazardous or regulated materials and conditions. If field measurements or observations indicate that a potential exposure is greater than the protection offered by the equipment or procedures specified below, work is to be stopped and ESI personnel are to leave the site until the potential exposure has been reduced to specified limits and/or the level of protection provided has been increased.

4.0 PERSONAL PROTECTIVE EQUIPMENT

Personnel will be provided with personal safety equipment and protective clothing selected for the work tasks. Each individual will be trained in the use of this safety equipment before the initiation of field activities. Cleaning and maintenance of equipment and clothing in accordance with the manufacturer's specifications is the responsibility of project personnel. The SSHO will monitor the protective equipment maintenance procedures.

The level of protective clothing and equipment selected for this project is EPA Level D. Safety equipment and protective clothing will be used as directed by this HASP. Personal protective equipment will be worn at times designated by this HASP.

If any equipment fails and/or any employee experiences a failure or other alteration of their protective equipment that may affect its protective ability, that person will immediately leave the work area. The Project Manager and the SSHO will be notified and, after reviewing the situation, determine the effect of the failure on the continuation of on-going operations. If the failure affects the safety of personnel, the work site or the surrounding environment, personnel will be evacuated until appropriate corrective actions have been taken.

5.0 SITE ACTIVITIES AND PERSONAL PROTECTIVE REQUIREMENTS

The levels of protection assigned to each activity below represent a best estimate of exposure potential and protective equipment needed for that exposure. Determination of levels was based on data provided by previous studies of the work site and information reviewed on current and past site usage. The SSHO may recommend revisions of these levels based on on-site assessment of actual exposures.

The work activity governed by this HASP is the completion of the tasks specified in the Final Workplan prepared by this office and dated December 3, 1997.

6.0 MONITORING AND ACTION LEVELS

Concentrations of VOCs and SVOCs in the air are expected to be below the OSHA PELs. Monitoring of subsurface material samples with a photoionization detector (PID) for volatile hydrocarbon content will be performed as part of the sample screening. These measurements will be used as an indication of the need to initiate personnel monitoring and/or increase worker protective measures. Sustained PID readings greater than 5 ppm will be considered justification for halting remedial services or upgrading personal protective equipment to Level C.

7.0 SITE ACCESS AND CONTROL

Site control procedures will be established to reduce the possibility of worker contact with compounds present in the soil and/or groundwater, to protect the public in the area surrounding the site by preventing the movement of chemicals from the site, and to limit access to the site to those personnel required to be on it. ESI will prevent the complete access to the site by unauthorized personnel through the placement of traffic cones and warning tape.

8.0 PERSONNEL TRAINING

Work zones that will accomplish the general objective stated above will be established by the Project Manager and the SSHO. Site access will be monitored by the SSHO, who will maintain a log-in sheet for personnel that will include, at the minimum, personnel on the site, their arrival and departure times and their destination on the site.

Personnel exiting the work zone(s) will be decontaminated prior to exit. The SSHO will establish a decontamination system and decontamination procedures appropriate to the site and the work that will prevent potentially hazardous materials from leaving the site (see Section 9.0).

Personnel hygiene facilities meeting at least the minimum requirements of 29 CFR 1910.120 will be provided on the site.

Site specific training will be provided to each employee. Personnel will be briefed by the SSHO as to the potential hazards to be encountered. Topics will include:

- Availability of this HASP.
- General site hazards and specific hazards in the work areas including those attributable to the chemicals present.
- Selection, use, testing and care of the body, eye, hand and foot protection being worn, with the limitations of each.
- Decontamination procedures for personnel, their personal protective equipment and other equipment used on the site.
- Emergency response procedures and requirements.
- Emergency alarm systems and other forms of notification, and evacuation routes to be followed.
- Methods to obtain emergency assistance and medical attention.

9.0 DECONTAMINATION

Garments will be washed with soap and clean potable water upon leaving the work zone and will be air dried prior to storage. Dirt, oil, grease or other materials that are visible will be removed from surfaces. Scrubbing with a brush may be required to remove materials that adhere to the surfaces.

Sampling equipment will be segregated and, after decontamination, stored separately from splash protection equipment. Decontaminated or clean sampling equipment not in use will be covered with plastic and stored in a designated storage area in the work zone.

Water used for decontaminating personnel and equipment will be contained and stored until proper disposal methods can be determined.

10.0 EMERGENCY RESPONSE

10.1 Notification of Site Emergencies

In the event of an emergency, the SSHO will be immediately notified of the nature and extent of the emergency.

Table 1 on Page 9 of this HASP contains Emergency Response Telephone Numbers. Figure 1 contains directions to the supporting hospital. This table and the directions to the nearest hospital will be maintained at the work site by the SSHO. The nearest telephone is located along the northern side of South 4th Street, approximately 100 feet northeast of the site.

10.2 Responsibilities

The SSHO will be responsible for responding to emergencies and prior to the initiation of on-site work activities will:

1. Notify individuals, authorities, and/or health care facilities of the potentially hazardous activities and potential wastes that may develop as a result of the investigation;
2. Confirm that the following safety equipment is available: first aid supplies, and a fire extinguisher;
3. Have a working knowledge of safety equipment available; and
4. Confirm that a map detailing the most direct route to the Hospital is prominently posted with the emergency telephone numbers.

The SSHO will be responsible for directing notification, response and follow-up actions and for contacting outside response personnel (ambulance, fire department or others). In the case of an evacuation, the SSHO will account for personnel. A log of individuals entering and leaving the site will be kept so that everyone can be accounted for in an emergency.

Upon notification of an exposure incident, the SSHO will contact the appropriate emergency response personnel for recommended medical diagnosis and, if necessary, treatment. The SSHO will determine whether and at what levels exposure actually occurred, the cause of such exposure, and the means to prevent similar incidents from occurring.

10.3 Accidents and Injuries

In the event of an accident or injury, measures will be taken to assist those who have been injured or exposed and to protect others from hazards. If an individual is transported to a hospital or doctor, a copy of the HASP will accompany the individual.

The SSHO will be notified and will respond according to the seriousness of the incident. The SSHO will perform an investigation of the incident and prepare a signed and dated report documenting the investigation. An exposure-incident report will also be completed by the SSHO and the exposed individual. The form will be filed with the employee's medical and safety records to serve as documentation of the incident and the actions taken.

10.4 Communication

No special hand signals will be utilized within the work zone. Excavation equipment operators will utilize standard hand signals during the operation of the equipment.

10.5 Safe Refuge

Vehicles and area structures will serve as the immediate place of refuge in the event of an emergency. If evacuation from the area is necessary, project vehicles will be used to transport on-site personnel to safety.

10.6 Site Security and Control

Site security and control during emergencies, accidents and incidents will be monitored by the SSHO. The SSHO is responsible for limiting access to the site to authorized personnel and for oversight of reaction activities.

10.7 Emergency Evacuation

In case of an emergency, personnel will evacuate to the safe refuge identified by the SSHO, both for their personal safety and to prevent the hampering of response/rescue efforts.

10.8 Resuming Work

Before on-site work is resumed following an emergency, necessary emergency equipment will be recharged, refilled, or replaced. Government agencies will be notified as appropriate.

10.9 Fire Fighting Procedures

A fire extinguisher will be available in the work zone during on-site activities. This extinguisher is intended for small fires. When a fire cannot be controlled with the extinguisher, the area will be evacuated immediately. The SSHO will be responsible for directing notification, response and follow-up actions and for contacting ambulance and fire department personnel.

10.10 Emergency Decontamination Procedure

The extent of emergency decontamination depends on the severity of the injury or illness and the nature of the contamination. Whenever possible, minimum decontamination will consist of washing, rinsing and/or removal of contaminated outer clothing and equipment. If time does not permit decontamination, the person will be given first aid treatment, and then wrapped in plastic or a blanket prior to transport to medical care.

10.11 Emergency Equipment

The following on-site equipment for safety and emergency response will be maintained in the on-site vehicle of the SSHO:

1. fire extinguisher;
2. first aid kit; and
3. extra copy of this Health and Safety Plan.

11.0 SPECIAL PRECAUTIONS AND PROCEDURES

The activities associated with this investigation may involve potential risks of exposure to both chemical and physical hazards. The potential for chemical exposure to hazardous or regulated substances will be significantly reduced through the use of monitoring, personal protective clothing, engineering controls, and implementation of safe work practices.

Other potential hazards that are associated with the tasks outlined in the Final Workplan will include working around heavy equipment. Precautionary measures have been established to reduce these risks to a minimum during work activities.

11.1 Site Refuse

Site refuse will be contained in appropriate areas or facilities. Personnel will make certain that trash is not scattered throughout the area of activity and that trash and scrap materials are immediately and properly disposed.

11.2 Additional Safety Practices

The following are important safety precautions which will be enforced during this investigation:

1. Medicine and alcohol can potentiate the effect of exposure to certain compounds. Controlled substances and alcoholic beverages will not be consumed during investigation activities. Consumption of prescribed drugs will only be at the discretion of a physician familiar with the person's work.

2. Eating, drinking, chewing gum or tobacco, smoking or other practices that increase the probability of hand-to-mouth transfer and ingestion of material is prohibited except in areas designated by the SSHO.

3. Contact with potentially contaminated surfaces will be avoided whenever possible. Workers will not unnecessarily walk through puddles, mud, or other discolored surfaces; kneel on the ground; or lean, sit or place equipment on drums, containers, vehicles or the ground.

4. Personnel and equipment in the work areas will be minimized, consistent with effective site operations.

5. Unsafe equipment left unattended will be identified by a "DANGER, DO NOT OPERATE" tag.

6. Work areas for various operational activities will be established.

11.3 Daily Log Contents

The SSHO will establish a system appropriate to the site, the work and the work zones that will record, at a minimum, the following information:

1. Personnel on the site, their arrival and departure times and their destination on the site.
2. Incidents and unusual activities that occur on the site such as, but not limited to, accidents, spills, breaches of security, injuries, equipment failures, and weather-related problems.
3. Changes to the HASP.
4. Daily information generated such as: changes to work and health and safety plans; work accomplished and the current site status; and monitoring results.

12.0 TABLES AND FIGURES

TABLE 1: EMERGENCY RESPONSE TELEPHONE NUMBERS

Emergency Agencies	Phone Numbers
Fire Department	911
Police Department (90th Precinct)	911 or 718-963-5311
Woodhull Medical Center	718-963-8000

FIGURE 1: DIRECTIONS TO KINGS COUNTY HOSPITAL (MAP ATTACHED)

Take South 4th Street East to Union Avenue.
Take right onto Union Avenue.
At third block on Union Avenue take left onto Broadway.
Take Broadway to Woodhull Medical Center.

ATTACHMENT D

COMMUNITY AIR MONITORING PLAN

Community Air Monitoring Plan

Real-time air monitoring, for volatile compounds and particulate levels at the perimeter of the work area is necessary. The plan must include the following:

- Volatile organic compounds must be monitored at the downwind perimeter of the work area on a continuous basis. If total organic vapor levels exceed 5 ppm above background, work activities must be halted and monitoring continued under the provisions of a Vapor Emission Response Plan. All readings must be recorded and be available for State (DEC & DOH) personnel to review.
- Particulates should be continuously monitored upwind, downwind and within the work area at temporary particulate monitoring stations. If the downwind particulate level is 150 $\mu g/m^3$ greater than the upwind particulate level, then dust suppression techniques must be employed. All readings must be recorded and be available for State (DEC & DOH) personnel to review.

Vapor Emission Response Plan

If the ambient air concentration of organic vapors exceeds 5 ppm above background at the perimeter of the work area, activities will be halted and monitoring continued. If the organic vapor level decreases below 5 ppm above background, work activities can resume. If the organic vapor levels are greater than 5 ppm over background but less than 25 ppm over background at the perimeter of the work area, activities can resume provided:

- the organic vapor level 200 ft. downwind of the work area or half the distance to the nearest residential or commercial structure, whichever is less, is below 5 ppm over backgroung.

If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown. When work shutdown occurs, downwind air monitoring as directed by the Safety Officer will be implemented to ensure that vapor emission does not impact the nearest residential or commercial structure at levels exceeding those specified in the Major Vapor Emission section.

Community Air Monitoring Plan
(Ground Intrusive Activities)

Major Vapor Emission

If any organic levels greater than 5 ppm over background are identified 200 feet downwind from the work area or half the distance to the nearest residential or commercial property, whichever is less, all work activities must be halted.

If, following the cessation of the work activities, or as the result of an emergency, organic levels persist above 5 ppm above background 200 feet downwind or half the distance to the nearest residential or commercial property from the work area, then the air quality must be monitored within 20 feet of the perimeter of the nearest residential or commercial structure (20 Foot Zone).

If efforts to abate the emission source are unsuccessful and if the following levels persist for more than 30 minutes in the 20 Foot Zone, then the Major Vapor Emission Response Plan shall automatically be placed into effect;

- if organic vapor levels are approaching 5 ppm above background.

However, the Major Vapor Emission Response Plan shall be immediately placed into effect if organic vapor levels are greater than 10 ppm above background.

Major Vapor Emission Response Plan

Upon activation, the following activities will be undertaken:

1. All Emergency Response Contacts as listed in the Health and Safety Plan of the Work Plan will go into effect.
2. The local police authorities will immediately be contacted by the Safety Officer and advised of the situation.
3. Frequent air monitoring will be conducted at 30 minutes intervals within the 20 Foot Zone. If two successive readings below action levels are measured, air monitoring may be halted or modified by the Safety Officer.

ATTACHMENT E

QUALITY ASSURANCE PROJECT PLAN

QUALITY ASSURANCE PROJECT PLAN

for the property located at

98-116 South 4th Street
Borough of Brooklyn
Kings County, New York

Date of Preparation: May 9, 1997

Date of Revision: October 13, 1997

ECOSYSTEMS STRATEGIES, INC.
60 WORRALL AVENUE
POUGHKEEPSIE, NEW YORK 12603
(914) 452-1658

ESI File Number: PB96146.40

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1.0 PURPOSE

The purpose of this Quality Assurance Project Plan ("QAPP") is to ensure that field sampling activities, laboratory analyses and data documentation are conducted consistent with state and federal regulations, and in a manner so as to accurately fulfill the project objectives for site closure activities on the property located at 98-116 South 4th Street in the Borough of Brooklyn, Kings County, New York ("Site").

The tasks described in the Final Workplan for Site Closure Activities ("Final Workplan") are proposed in order to remove petroleum-contaminated soil currently present under the slab of Building #3; close the two on-site 10,000-gallon fuel tanks and two 275-gallon fuel tanks; monitor the demolition of Building #1 for the presence of contaminated soil; close the on-site monitoring wells; and remove all on-site wastes currently stored in drums and other receptacles.

The Site as defined in this QAPP is the rectangularly shaped property located at 98-116 South 4th Street in the Borough of Brooklyn, Kings County, New York. Occupying almost the entirety of the Site are three structures: a central seven-story structure (herein referred to as Building #2) flanked by a one-story structure to the east (herein referred to as Building #1) and a one-story structure to the west (herein referred to as Building #3).

All three buildings were constructed in the early to mid 1900s and are currently in varying stages of deterioration. The on-site structures were formerly occupied with various manufacturing uses including an electroplating laboratory and a former glue/adhesives factory. Based on available information, all three of the on-site structures are connected to the municipal water and sewer systems.

2.0 PROJECT MANAGEMENT

2.1 Client's Consultant

The Client's Consultant will be responsible for overall project coordination and implementation. Prior to the initiation of work, the identities and qualifications of the project manager and associated staff will be supplied to the NYSDEC. All on-site staff will be appropriately trained in accordance with Occupational Safety and Health Administration (OSHA) practices (29 CFR, Part 1910). The NYSDEC will also be notified of any changes in the senior on-site personnel. The office phone number for the Client's Consultant is (914) 452-1658.

Prior to the initiation of field work, a Site Health and Safety Officer will be designated by the Client and a complete Health and Safety Plan will be prepared. Resumes of specific professionals to be used by the Client will be provided to the NYSDEC. At this time, it is anticipated that Project Management and Site Safety will be provided by Paul H. Ciminello, Ronald Bielinski, P.E., Katherine J. Beinkafner, Ph.D., and Bradley E. Fisher. The Quality Assurance Officer (QAO) for this project will be Żywia Wojnar.

2.2 Notifications

The NYSDEC will be notified in writing at least two weeks prior to the initiation of any of the on-site work and during the course of the field work if deemed necessary by on-site personnel. Changes to field work scheduling will be provided via facsimile transmission. All applicable local agencies will also be notified prior to the initiation of site work.

2.3 Subcontractors

Soil Excavation Services

Soil excavation services will be performed by a licenced contractor using a standard backhoe and the stockpiled soil will be transferred to designated licenced facilities by properly certified transporters using standard equipment. All transported soil will be appropriately covered during transport. Appropriate testing of stockpiled soil will be performed prior to disposal to determine appropriate waste characteristics. Appropriate manifests of removal will be maintained by ESI.

Tank Removal Services

Tank removal services will be performed by a licenced contractor using a standard backhoe. Any encountered contaminated soil will be transferred to designated licenced facilities by properly certified transporters using standard equipment. Appropriate testing of stockpiled soil will be performed prior to disposal to determine appropriate waste characteristics. Appropriate manifests of removal will be maintained by ESI.

DRUM REMOVAL SERVICES

All previously identified drums and materials (e.g., glues, resins) will be removed by a properly licenced contractor in accordance with applicable state and federal regulations. All other encountered products and/or materials requiring special handling will be removed and disposed of in accordance with applicable regulations. Appropriate testing of unknown materials and/or products will be performed prior to disposal to determine appropriate waste characteristics (if warranted). This testing will be performed in accordance with Appendix 19 of 6 NYCRR Part 371 (Representative Sampling Methods). All drums/materials will be transferred to designated licenced facilities by properly certified transporters. Appropriate manifests of removal will be maintained by ESI.

ANALYTICAL SERVICES

A New York State Department of Health ELAP CLP approved laboratory will perform environmental laboratory analyses. All work will be conducted in accordance with USEPA and NYSDEC analytical protocols. NYSDEC Analytical Services Protocol (ASP) Category B deliverables will be provided with the data package.

2.4 Utility Markout

A complete utility markout will be requested prior to any subsurface investigation activities. The Underground Utilities Hotline will be called two weeks prior to any work to be performed at the Site. Those utilities notified by the Underground Utilities Center will be contacted for confirmation of the markout prior to any on-site excavation. A field check of marked utilities in the vicinity of the property will be conducted. In addition, available site plans will also be reviewed for underground structures not included in the utility survey.

2.5 Health and Safety Plan

A site-specific Health and Safety Plan (HSP) will be prepared prior to the initiation of field work and the HSP will be reviewed with the appropriate subcontractors prior to the initiation of field work.

2.6 Community Air Monitoring Plan

A Community Air Monitoring Plan will be initiated during the field work outlined below, consistent with the Community Air Monitoring Plan as provided by the NYSDEC.

3.0 SAMPLING SUMMARY

Summarized below in Table 1 is the number of samples that are anticipated to be collected during this project, categorized by sample location and by analyte group. The number of samples are, at this time, estimates; field conditions may necessitate a greater or fewer number of samples being collected. A final sample chart will be included in all future reports issued to the NYSDEC.

Table 1: Summary of Anticipated Soil Samples

Sample Location		Number of Samples to be Collected (Anticipated)			
		VOCs (ASP 95-1)	SVOCs (ASP 95-2)	Metals (CLP-M)	Other
Building #3	Waste Characterization	2-4	2-4	2-4	PCBs, Pesticides, Cn, pH, Flashpoint, TCLP
	Shallow (0-0.5')	6	6	0	Depends on screening results
	Deep (3'-3.5')	6	6	0	Depends on screening results
Building #1	Shallow (0-0.5')	5	5	5	Depends on screening results
	Deep (3'-3.5')	5	5	5	Depends on screening results
	Stockpiled Soil	2-4	2-4	2-4	Depends on volume of soil
Tank Removal	Sidewalls	0	4-8	0	Depends on screening results
	Base	2	2	0	Depends on screening results
	Stockpiled Soil	2-4	2-4	2-4	Depends on screening results
Total # of Samples		**30-36**	**34-44**	**16-22**	

Notes: 1. All soil samples will be analyzed using NYSDEC ASP Methods 95-1 and 95-2.
2. The reporting level for all samples will be NYSDEC ASP Category B deliverables.

All debris that is generated during demolition activities will also be analyzed via the full TCLP (Method 1311) TC list prior to off-site disposal. All demolition debris will be sampled in accordance with methods established in Appendix 19 of 6 NYCRR Part 371. The number of samples that will be collected as part of the disposal of the demolition debris will be sufficient to accurately characterize the material for deposition purposes.

3.1 Removal of Contaminated Soil Under the Slab of Building #3

The soil beneath the concrete slab in Building #3 is scheduled to be removed in accordance with site closure activities outlined in the Final Workplan. All samples will be collected with a decontaminated stainless steel trowel. The soil samples will be placed in a laboratory-sterilized jar and stored on ice in a cooler prior to overnight shipment to the laboratory. Proper chain of custody documentation will accompany each sample shipment. All soil samples will be analyzed for the parameters listed in Table 1, above.

Field personnel will visually examine the sample and note the following physical characteristics in a field notebook, including color, evidence of staining or free product, odor, and PID readings, as recorded at designated intervals.

Prior to soil excavation, the entire area beneath the removed slab in Building #3 will be monitored by a qualified environmental professional (herein referred to as the On-Site Coordinator or "OSC") using a Thermal Instruments 580B photoionization detector (PID) calibrated to read parts per million gas equivalents (ppm-cge) of isobutylene. Olfactory and visual indications of chemical/petroleum contamination will be noted in field logs. The OSC will be responsible for identifying any soils which, in the opinion of the OSC, may contain elevated concentrations of contaminants and should therefore require special handling.

Soils that are either visibly stained or were identified in previous investigations as contaminated will be excavated during the course of the remediation project. Based on prior analyses, the initial 3 to 3.5 feet of encountered soils will be excavated for off-site disposal.

Those soils identified by the OSC will be removed to the management area for testing and off-site disposal. The OSC will also be on-site to ensure that unforeseen environmental conditions are managed in accordance with applicable federal and state environmental regulations.

Prior to excavation, discrete soil samples will be collected for waste characterization purposes (the number of samples will depend on the volume of soil). Analyses will be conducted consistent with the requirements of the waste repository. Analyses will be used to determine if the encountered soil will be handled as a hazardous or non-hazardous waste.

Soils will be excavated and immediately deposited into lined thirty cubic yard receptacles for transport to a facility permitted to handle VOC-contaminated soils. Any encountered soils which indicate the presence of "significantly elevated concentrations" will be handled independent of other excavated soils from beneath the slab. All manifests and supporting documentation of waste disposal will be maintained by the OSC for inclusion in the final report.

Confirmatory soil samples will be collected from each area where soil was removed including those areas found to be highly contaminated (if warranted), in a manner consistent with NYSDEC guidelines. Six (6) sample locations will be randomly selected over an established grid covering the footprint of the existing building and the area of soil excavation (these locations will be sited to evaluate the effectiveness of the soil removal). Samples will be collected from two discrete depths subsequent to the removal of the initial 3 to 3.5 feet layer of soil (i.e., sampling will begin at 3 to 3.5 feet below current surface grade level); these depths are designated as 0 - 0.5 feet and 3 - 3.5 feet (a total of 12 samples will be collected). If appropriate, samples will also be collected from areas found to be highly contaminated (e.g., beneath drum storage area).

Confirmatory samples will be analyzed for volatile organic compounds and semi-volatile organic compounds consistent with the NYSDEC's ASP Methods 95-1 and 95-2. All laboratory analyses will be performed by a NYSDOH ELAP-CLP certified laboratory. Appropriate chain of custody documentation will be maintained. Data from these analyses will determine the need for additional soil removal.

During the soil excavation procedures beneath the slab of Building #3, the OSC will field check the area beneath the slab for the presence of any wastewater discharge lines or any other discharge points. If lines or discharge points are encountered, the OSC will collect a sufficient number of soil samples from beneath the lines so as to properly characterize the presence of any contamination. All soil samples will be collected and analyzed for VOCs and SVOCs in accordance with ASP Methods 95-1 and 95-2.

3.2 Closure of On-site USTs and ASTs

Specifications for Tank Closure Services proposed for use in closing the two 10,000-gallon USTs are provided as an attachment to the Final Workplan. These Specifications are consistent with NYSDEC Petroleum Bulk Storage Regulations (6 NYCRR, Part 612-614) and relevant NYSDEC guidance documents. The two 275-gallon ASTs will be closed in a manner consistent with 6 NYCRR, Part 613.

3.3 Monitoring the Demolition of Building #1

Documentation of on-site conditions indicates that petroleum contaminated soils may be encountered during the course of the demolition of Building #1. The OSC will be present during the initial stages of site development to observe excavation activities. Specific activities which will be conducted by the OSC are the following:

1. The OSC will work with the excavator to locate a secure area on the Site for the management (e.g., loading, stockpiling, sampling, etc.) of suspect waste streams, including contaminated soils. The management area will be located in a place that will be the least disruptive to site activities.

2. The OSC will screen soils encountered after the demolition of Building #1 with a PID or comparable equipment. Olfactory and visual indications of chemical/petroleum contamination will be noted in field logs. The OSC will be responsible for identifying any soils which, in the opinion of the OSC, may contain elevated concentrations of contaminants and should therefore require special handling. Those soils identified by the OSC will be removed to the management area for testing and off-site disposal.

3. The OSC will ensure that all soil present on the site which may contain elevated levels of contaminants is covered daily with 6 mil plastic, weighted with rocks or other materials to prevent the cover from shifting.

4. The OSC will collect a sufficient number of samples from the stockpiled soil to provide documentation for proper soil transport and disposal. The specific analytes will be determined based on the requirements of the final repository. The determination of soil disposal procedures (e.g., disposal as a hazardous or non-hazardous petroleum waste) will be based on the laboratory results.

5. The OSC will identify waste haulers who hold appropriate licenses for waste transport and will provide the Client with all necessary services to facilitate the proper transport and disposal of stockpiled soils. Waste transport and disposal manifests will be maintained by the OSC for inclusion in reports to the NYSDEC.

6. Upon completion of all proposed excavation activities, the OSC will collect and have analyzed five (5) surface soil (0.5 - 1.0 foot depth) samples and five (5) mid-grade level (3.0 - 3.5 foot depth) samples. These samples will be analyzed for VOCs and PAHs in accordance with ASP Methods 95-1 and 95-2. In addition, the samples will also be analyzed for CLP-M metals; observations may warrant additional analytes.

7. During the course of monitoring activities in Building #1, the OSC will field check the area beneath the slab for the presence of any wastewater discharge lines or any other discharge points. If lines or discharge points are encountered, a sufficient number of soil samples from beneath the lines so as to properly characterize the presence of any contamination. All soil samples will be collected and analyzed in accordance with NYSDEC ASP Methods 95-1 and 95-2.

3.4 Removal of On-site Wastes

Prior to any demolition services, all drums and liquid chemical storage containers as well as any liquids not currently in containers will be inventoried to determine if any of the stored material can be returned to manufacturers and for waste disposal compatibility assessment purposes. All drummed or non-containerized wastes will be sampled in accordance with methods established in Appendix 19 of 6 NYCRR Part 371. Upon completion of the inventory, a determination will be made regarding final disposition of all liquids.

All drums and containers determined to be unstable or in containers of questionable structural integrity will be overpacked. Similarly, wastes determined to be unstable will be chemically stabilized consistent with applicable procedures. All wastes, whether liquid or not, will be properly labeled and removed from the site by a licensed hauler. Manifests will be maintained by the OSC for inclusion in the Final Report.

Subsequent to the removal of all debris in the basement area of Building #2, a thorough search of the floor area will be conducted for the presence of any floor drains. In the event that drains are located, these drains will be opened and any accumulated material inside will be sampled for characterization purposes. The direction of the drain will be determined through physical probing and, if appropriate, video documentation. The floor of the basement will be breached along the extent of the drain and discharge lines and soil samples will be collected, with particular concern for volatile organic compounds (VOCs) and reactive compounds. Analytical results will determine the need for and extent of subsurface remediation. Current data (see laboratory results of B-8 and B-9) do not indicate the need for remedial actions for the soils under Building #2.

At a minimum, any identified floor drains will be cleaned of residue and foreign material and will be properly sealed.

3.5 Closure of On-site Monitoring Wells

The following procedure will be eventuated with respect to the closure of the on-site groundwater monitoring wells:

1. NOTICE

All appropriate agencies will be notified in writing of the proposed closure of groundwater monitoring wells.

2. EVACUATION

Any obstructions that could interfere with the sealing process will be removed. All pump bowls, columns, and other debris shall be removed from the well. The upper portion of the casing will be removed to a sufficient depth below proposed finish grade to ensure that the abandoned well will not present an obstruction to any future use of the site.

3. CASING REMOVAL

The well casing/riser in each well will be removed to a depth of 5 feet below grade.

4. CASINGS

The entire remaining casing, including the riser pipes and annular spaces between casings will be filled with a cement/bentonite mixture in the following ratio: one 94 pound bag Type I Portland cement, 3.9 pounds of powdered bentonite, and 7.8 gallons of potable water. The mixture, if appropriate, shall be placed under pressure through tremie pipes to the bottom of the space to be filled in order to prevent dilution of the mixture. The tremie pipe may be raised slowly as mixture is introduced to the casing or hole.

5. CASING SEAL

After the mixture has consolidated, as confirmed by visual inspection, the upper 5 feet of the well column will be filled with a material appropriate with the future use of the site or the area will be restored to the condition of the surrounding materials.

4.0 QUALITY CONTROL PROCEDURES

4.1 Laboratory

All soil samples will be collected in accordance with applicable NYSDEC guidelines. All samples will be analyzed by a New York State Department of Health (NYSDOH) ELAP CLP certified laboratory using applicable NYSDEC Analytical Services Protocol (ASP) Methods. The reporting level for all analyzed soil and groundwater samples will be NYSDEC ASP Category B deliverables. All data will be evaluated in accordance with protocols outlined in the attached Division of Environmental Remediation Data Usability Summary Report ("DUSR"). This DUSR is provided as Attachment F in this Final Workplan.

4.2 Field Instrumentation

A field equipment checklist will be used for mobilization and documentation of the quantity of field equipment and materials used each day. All field equipment will be calibrated daily immediately prior to use in the field. Calibration procedures will follow standard manufacturers' instructions to ensure that the equipment is functioning within tolerance ranges established by the manufacturer and required by the project. A record of the instrument calibration will be stored with each instrument

Each field instrument that comes into contact with any sampled media will be properly decontaminated prior to use at each sampling location in order to prevent cross contamination. Decontamination procedures are outlined in Section 3.3 of this QAPP.

PHOTOIONIZATION DETECTOR

A Thermal Instruments 580B photoionization detector (PID) calibrated to read parts per million calibrated gas equivalents (ppm-cge) of isobutylene will be used to screen soils, and to perform air monitoring in the work areas. The PID will be manually calibrated in the field at the beginning of each field day. Calibration procedures are as follows:

	PRESS THIS	OBSERVE THIS
1.	ON / OFF + sampling pump on	Current ppm reading
2.	MODE / STORE	LOG THIS VALUE?
3.	-/CRSR 4 TIMES	"RESET" TO CALIBRATE
4	RESET	RESTORE BACKUP
5.	-/CRSR	ZERO GAS RESET WHEN READY
6.	Make sure you are in a clean area (or hook up zero air supply)	
7.	RESET	MODEL 580 ZEROING then SPAN PPM = 100
8.	VALUE FOLLOWING "SPAN PPM" MUST EQUAL PPM VALUE OF CALIBRATION GAS	
9.	+/INC	SPAN GAS RESET WHEN READY
10	ATTACH CALIBRATION GAS AND OPEN FLOW REGULATOR	
11.	RESET "RESET" to CALIBRATE	MODEL 580 CALIBRATING then
12.	MODE /STORE	CURRENT PPM OF GAS

4.3 Sampling Equipment

Prior to the initiation of field work, all field equipment to be used during the work will be properly decontaminated in accordance with NYSDEC guidelines. All samples will be collected using dedicated disposable equipment or properly decontaminated equipment. Reusable sampling equipment will be decontaminated in the following manner:

1. Pressure wash with deionized water and a designated brush to remove any visible dirt.
2. Wash and scrub in a mild detergent (e.g. Alconox) and deionized water using a designated brush.
3. Rinse the equipment with deionized water.
4. Rinse the equipment with a 10% Nitric Acid solution (if warranted).
5. Rinse with deionized water.
6. Rinse with methanol.
7. Rinse with deionized water.
8. Allow to air dry and use immediately or wrap in aluminum foil (shiny side out).

4.4 Quality Control Samples

4.4.1 Field Blanks/Equipment Blanks

One field/equipment blank per day will be collected for soil samples and analyzed for the parameters being tested. Field/equipment blanks will be collected in the following manner: field blank water (provided by the laboratory) will be poured over the sampling device and into the appropriate containers (dependent upon the type of laboratory analysis requested). The sampling container will be labeled as a field blank, stored on ice with other samples collected during the day, and shipped to the laboratory via overnight delivery service.

4.4.2 Trip Blanks

Trip blanks will be included on days only when volatile organic compounds are a parameter to be analyzed. One trip blank per sample shipment (not to exceed two consecutive field days) will be submitted. The trip blank will be analyzed for volatile organics only. The trip blank vial will be labeled by the laboratory and will not be opened in the field.

4.4.3 MS/MSD

Matrix spike/matrix spike duplicate samples will be collected in soil samples. These samples will be collected at the rate of one MS/MSD sample for every 20 field samples , or every batch of samples, whichever is more frequent.

4.5 Sample Handling

Dedicated, sterile glassware for sample collection will be provided by the laboratory for this project. Sampling personnel will wear disposable latex gloves during collection, field screening or other contact with sampled media. A new pair of gloves will be worn at each sample location. All samples will be placed in appropriate containers supplied by the laboratory. Preservation of samples, when required, will be performed in accordance with laboratory directives. Samples will be stored on ice immediately following sample collection and until samples are delivered to the laboratory.

Table 2: Sample Handling Procedures

Analytical Parameter	Type of Container	Preservative	Maximum Holding Time
Soils			
CLP-M Metals	8-oz wide-mouth glass jar	Cool to 4°C	6 months
Volatiles 95-1	4-oz. wide-mouth glass jar w/Teflon-lined cap	Cool to 4°C	5 days
Semivolatiles 95-2	same as above	Cool to 4°C	5 days
Notes: 1. All samples will be delivered to the laboratory within 48 hours of sample collection 2. NYSDEC ASP Level B Deliverables are required for all sample analyses 3. Holding times for VOCs and SVOCs are measured from verified time of receipt at the laboratory			

4.5.1 Chain of Custody

Proper chain of custody documentation will be maintained at all times and will accompany samples during shipment to the laboratory. Neither samples nor associated blanks will be kept on-site for longer than two days. Shipment to the laboratory will be via overnight delivery service or via laboratory courier service. A signed copy of the chain of custody form will be kept by the Client's Consultant.

4.5.2 Sample Labels

All sample containers will be labeled with indelible ink immediately following sample collection. The following information will be included on each label:

- Date and time of collection
- Project number
- Sample identification number
- Required analysis
- Preservative, if required
- Sampler's name
- Company name

4.5.3 Field documentation

A bound logbook will be maintained by the Client's Consultant staff to provide a daily record of field activities, observations, and measurements. The page number, date and project number will be written in indelible ink at the top of each page. The following entries will follow:

- Weather conditions
- Names of field personnel/Arrival and departure times
- Daily activities
- Relevant observations
- Record of photographs
- Record of sample collection identifiers and locations
- Equipment usage
- Site visitors (Agency, Client, etc.)
- Signature of field investigator responsible for recording observations (at end of daily entry)

5.0 DATA VALIDATION AND DATA USABILITY

The data package received from the New York State Department of Health approved laboratory will be reviewed by an independent data validation firm. Data validation activities will be performed in accordance with USEPA and NYS Department of Environmental Conservation protocols. Data validation will be performed for 100% of the data generated at the Site.

A comprehensive Data Validation Summary Report detailing the acceptability of the data, including deviations noted, will be generated. Provided in addition to the validation summary are the following: Analytical Data Summary Tables including appropriate qualifiers; Precision Tables for field duplicate samples; and copies of the corresponding Case Narratives, Chain-of-Custody Forms and NYSDEC Summary Sheets.

A Data Usability Report will be prepared based upon the laboratory reports and the Data Validation report. The Data Usability Report will assess the quality of the data collected during the site investigation. Analytical results and data points will be evaluated for consistency with site history and previous sampling rounds, potential field or laboratory contamination, and compliance with protocol requirements. Based on assessment of data usability, recommendations may be made for resampling or selection of different/additional data points, and for expansion/deletion of analytical parameter lists. The data usability report will be included in the Site Investigation/Remedial Alternatives Report.

6.0 QUALITY ASSURANCE OFFICER

Ms.Żywia Wojnar has been designated Quality Assurance Officer ("QAO") for this project. The QAO will review all work relating to the site closure activities in order to ensure compliance with the QAPP protocol and project objectives. Included in this review will be field and sampling audits, and the review of analytical data. The QAO will generate a data usability report as described in Section 5.0 of this QAPP. Ms. Wojnar's resume is included in the Final Workplan.

ATTACHMENT F

NYSDEC DIVISION OF ENVIRONMENTAL REMEDIATION

DATA USABILITY SUMMARY REPORT

Data Usability Summary Report (DUSR)

Background:

The purpose of the DUSR is to provide a thorough data evaluation by an experienced environmental scientist and/or the project Quality Assurance Officer.

Since it is recommended that Data Validation Reports be prepared by an independent third party (i.e., independent of the project management consulting firm and the analysis laboratory), the DUSR is an appropriate alternative when data quality and usability are not expected to be a significant issue. In these cases, the DUSR is an appropriate alternative since it is more cost effective and time efficient than data validation.

The DUSR and data deliverables will be reviewed by the NYSDEC Quality Assurance Unit. In most cases, we expect this review will result in agreement or minor differences which should be easily reconciled. If data validation is found to be necessary (e.g., pending litigation), it can be done at a later date by an independent third party on the data deliverable package.

Preparation of a DUSR on a NYSDEC ASP Category B or CLP Deliverables Package

The Environmental Scientist preparing the DUSR should submit a resume to the NYSDEC Quality Assurance Unit documenting relevant experience in environmental sampling and analysis methods and data review and statement of Bachelors Degree in Natural Science or Engineering.

The DUSR is prepared by reviewing and evaluating the analytical data. The parameters to be evaluated in reference to compliance with the analytical method protocols include all sample chain-of-custody forms, holding times, raw data (instrument print out data and chromatograms), calibrations, blanks, spikes, controls, surrogate recoveries, duplicates and sample data. If available, the Field Sampling Notes should also be reviewed and any quality control problems should be evaluated as to their effect on the usability of the sample data.

The DUSR describes the samples and analysis parameters reviewed. Data deficiencies, analytical method protocol deviations and quality control problems are described and their effect on the data is discussed.

Resampling/reanalysis recommendations are made. Data qualifications are documented for each sample analyte following the NYSDEC Analytical Services Protocol '91 Rev. guidelines.

Contact Christine McGrath, NYSDEC, Division of Hazardous Waste Remediation, Quality Assurance Unit, at (518) 457-3252, with any questions on preparing a DUSR.

Revised 11/95

ATTACHMENT G

TANK REMOVAL SPECIFICATIONS

1.0 Summary of Proposed Work

1.1 Site Location

The project site ("site") is defined in these Tank Removal Specifications ("Specifications") as that portion of the property located at 98-116 South 4th Street in the Borough of Brooklyn, Kings County, New York City, New York where tank removal activities will occur. These tanks are located within a vault in the basement of the on-site building (Building #3).

1.2 Tank Identification and Description

Two 10,000-gallon petroleum bulk storage (PBS) tanks used to store fuel oil are present on the site. Available information indicates that these tanks were installed when the building was constructed and were used to store heating oil for the on-site structure's furnace. These two PBS tanks are estimated to be approximately 30 feet long and approximately 8 feet wide in diameter. They are located within a vault area but are only partially aboveground (approximately 30%); for management purposes these tanks are considered to be underground storage tanks.

1.3 General Description of Project

The proposed action involves the removal of the two on-site PBS tanks described above in conjunction with site redevelopment and will be initiated after demolition of the building's first floor. This tank removal work will include the removal and proper disposal of any petroleum products located within the tanks and their associated piping networks; the disconnection and removal of the tanks and associated piping networks; the proper sampling of the tank excavation area and any encountered petroleum contaminated soils; the removal of the tank's surrounding concrete vault; and the restoration of the area as designated by the Client.

1.4 Unforeseen Conditions

To the extent practical, these Specifications will be followed for the removal of each tank. The removal of a PBS tank, however, is a dynamic process, with the continuing development of site conditions after each completed step dictating the proper procedural approach for the next step. Field conditions and unforeseen events may, therefore, render portions of these Specifications inappropriate and/or unnecessary. Unless rendered impractical due to emergency conditions, any substantive alterations to these Specifications will be reviewed with the Client and the NYSDEC prior to their implementation.

1.5 References

These Specifications were prepared based on available information regarding the tanks which was obtained from the Client, local agencies, state agencies, and a visual inspection of the tanks conducted by this office. These Specifications were prepared in accordance with the requirements of the NYSDEC's Petroleum Bulk Storage Regulations 6 NYCRR Parts 612-614 and the NYSDEC's SPOTS Memo # 14 Site Assessments at Bulk Storage Facilities.

2.0 Definitions

The following definitions and terms are defined for the purpose of these Specifications.

- NYSDEC: New York State Department of Environmental Conservation
- NYSDOH: New York State Department of Health
- NYSDOL: New York State Department of Labor
- NYCFD New York City Fire Department
- Client: The individual designated as the entity for whom the tank removal services are being performed.
- Contractor: The individual or firm retained by the Client for the purpose of removing the two on-site USTs in accordance with the requirements of the NYSDEC as well as the procedures outlined in these Specifications.
- H&SO: Health and Safety Officer; the individual designated by the contractor to be responsible for implementing the Health and Safety Plan.
- OSC: On-Site Coordinator; the individual designated by the contractor to be responsible for the coordination of all tank removal activities.
- ELAP: Environmental Laboratory Approval Program
- PID: Photoionization detector calibrated to read parts per million calibration gas equivalents (ppm-cge) of isobutylene; provides estimates of the presence or absence of volatile organic compounds.
- VOCs: Volatile Organic Compounds
- SVOCs: Semi-Volatile Organic Compounds

3.0 Site Preparation Work

3.1 Project Meetings

In order to ensure that the tank removal work is performed in a cost-efficient and timely manner, a series of meeting will be held. These meetings will consist of a "Kick-Off" Meeting and additional project meetings to be scheduled by the Contractor and/or the Client, as warranted by project status or changes in services; unless determined appropriate by the Contractor and/or Client, no Project Closure Meeting will occur.

The "Kick-Off" Meeting will be attended by all involved personnel (or at a minimum by a representative of each firm) and will include the coordination and scheduling of the tank removal activities as well as the review of the Health and Safety Plan (see Section 3.2, below). At or before this Meeting, the Contractor will provide to the Client the name and qualifications of the OSC.

3.2 Health and Safety Plan

a. A site-specific Health and Safety Plan will be prepared by the contractor, and will, at a minimum, identify procedures to be adhered to in the event of an accident on the site during tank removal activities.

b. The Health and Safety Plan will be submitted to the Client for review prior to the initiation of any tank removal work.

c. The Health and Safety Plan will be reviewed with all subcontractors and involved personnel prior to the initiation of field work (See Section 3.1, above).

d. The Contractor will provide to the Client the name and qualifications of the project's H&SO, who will be responsible for implementing the Health and Safety Plan. At the discretion of the Contractor, the OSC may serve as the H&SO.

3.3 Utility Markout

A request for a complete utility markout of the project site will be submitted as required by NYSDOL regulations. Confirmation of underground utility locations will be secured and a field check of the mark-out will be conducted prior to the initiation of field work.

3.4 Site Control/Area Designation

The Site will be properly secured by the Contractor to prevent unauthorized individuals from entering the work zone. The Site will be inspected by the Contractor and, at a minimum, equipment staging and contaminated soil stockpiling areas will be located and secured.

3.5 State Agency Notifications

The NYSDEC will be contacted in writing to notify them of the projected tank removal, as required by 6 NYCRR, Part 613.9. Notification will occur no later than ten (10) business days prior to the actual field work.

3.6 Local Approvals

The New York City Building Department and Fire Department will be contacted by the Contractor and any approvals or permits required by these agencies will be secured prior to the initiation of tank removal work; all costs will be the responsibility of the Contractor.

3.7 Record-Keeping

a. All record-keeping is the responsibility of the Contractor. All field work activities, observations made during the tank removal process, indications of contamination will be monitored and logged in the field notes maintained by the OSC.

b. All manifests documenting proper removal of petroleum products and the tanks and associated piping networks will be maintained by the Contractor. The Contractor will obtain authorization from the Client to sign manifests and bills of lading as the Client's representative in the event that the Client cannot be present during field work.

c. A copy of all manifests and bills of lading will be provided to the Client and will be included in the Tank Closure Report prepared for the property (see Section 6.0 below).

3.8 Subcontractors

a. Qualifications of subcontractors may be reviewed by the Client prior to a subcontractor being considered acceptable for this project.

b. At a minimum, any laboratory proposed for use on this project will be a NYSDOH ELAP certified laboratory for all analyses which are specified herein.

c. All subcontractors will be notified in a timely manner to ensure that the tank removal activities proceed on schedule and without delays.

4.0 Tank and Piping Network Removal Procedures

4.1 Liquid and Sludge Removal

Prior to the initiation of tank removal, the tank and associated piping will be drained of all remaining product for off-site disposal/reuse. Any residual product and/or sludge in the tank and connecting lines encountered subsequent to the removal of the tank will be drained into 55-gallon drums and transported off-site for disposal in accordance with applicable state and federal regulations. Proper documentation of product disposition will be maintained by the Contractor.

4.2 Cutting of Asphalt

All asphalt present in the area designated by the Contractor as being within the tank excavation area will be cut and removed.

4.3 Vault Demolition

The concrete vault surrounding the two tanks will be broken into pieces and removed subsequent to the removal of all possible product from the tanks and their associated lines.

4.4 Tank and Piping Removal, Inspection and Disposition

a. Excavation activities will commence to expose the top and sides of each UST. Encountered soil will be screened by the OSC using a PID for evidence of gross petroleum contamination. If encountered, contaminated soil will be segregated stockpiled for subsequent testing and removal.

b. All connecting lines will be disconnected and removed from the site.

c. The tank will be removed from the ground and visually inspected by the OSC for evidence of damage and/or corrosion.

d. The tank will then be rendered free of vapors (provisions must be made for natural breathing of the tank to ensure that the tank remains vapor free) and transported off-site for disposal as scrap metal along with the associated piping network. Documentation of proper tank destruction will be maintained by the Contractor.

5.0 Evaluation and Documentation of Subsurface Conditions

5.1 Inspection of Soils

The remaining soils in the excavation pit and those already removed from the pit will be visually examined and screened with a PID to document the presence or absence of any indications of petroleum contamination. All field indications of contamination will be noted in the field logs by the OSC.

5.2 Soil Analysis of Non-contaminated Soils

In the event that no evidence of contamination is encountered, confirmatory samples from the floor (two samples) and four walls (one from each wall) of the excavation area will be collected for laboratory analysis of semi-volatile organic hydrocarbons (SVOCs) using ASP Method 95-2. The floor samples will also be analyzed for VOCs using ASP Method 95-1. Prior to the collection of each sample, field sampling equipment will be decontaminated as follows: soapy water rinse, de-ionized water rinse, methanol rinse, air drying, de-ionized water rinse.

All samples collected for laboratory analysis will be placed in sample jars sterilized at the laboratory. Sterile gloves will be used to place the material into jars, and the jars will be placed in a cool, dry place prior to their transport to a New York State Department of Health (NYSDOH) ELAP certified laboratory for analysis following proper chain of custody procedures.

5.3 Encountered Contaminated Soil

Previous soil sampling indicates that significant volumes of contaminated soil is not likely to be encountered. Procedures outlined below are considered precautionary.

a. In the event that petroleum contaminated soil is identified, all suspect material will be excavated and stockpiled on plastic sheeting (6 mil gauge). Representative samples of the contaminated stockpiled soil (composite soil sample) as well as soil from the "clean floor" (two samples) and "clean walls" (one sample from each wall) will be collected and sent to a NYSDOH ELAP certified laboratory for analysis of SVOCs using ASP Method 95-2 and VOCs using ASP Method 95-1. Proper chain of custody procedures will be followed.

b. The NYSDEC will be notified immediately of the occurrence of a petroleum spill as required by 6 NYCRR, Part 613.8.

c. If laboratory analyses reveal that portions or all of the stockpiled soil is unfit for use as backfill, representative samples of the spoil pile confirmed to be contaminated will be analyzed for all of the parameters specified by the designated repository location. This soil will then be disposed of in accordance with all applicable state requirements (6 NYCRR Part 360 if laboratory analyses reveal the soil to be a non-hazardous waste and 6 NYCRR Part 370 if analyses reveal it to be a hazardous waste).

5.4 Restoration of Area

Restoration of the former tank area will proceed consistent with site development plans.

6.0 Preparation of Final Report

A final Tank Closure Report will be prepared, documenting all tank removal activities, including the presence or absence of field and laboratory indications of contamination, the extent of contamination, the presence or absence of groundwater contamination, and remedial options based upon the analytical results and field observations.